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ABSTRACT

This guide to accompany the student text presents lesson plans dealing with the influence of society on behavior. Lessons are designed to help students increase their ability to use the following techniques of social science research: (1) participant observation; (2) data manipulation; (3) questionnaire survey; (4) field manipulation; and (5) laboratory experimentation. Each lesson plan provides: (1) a synopsis; (2) a list of objectives; (3) a list of needed supplies; (4) related assignments in the student text; and (5) suggested teaching procedures. (Author/RE)

B I O M E D I C A L S O C I A L S C I E N C E

UNIT IV

WHAT INFLUENCES HUMAN BEHAVIOR?

INSTRUCTOR'S MANUAL

REVISED VERSION, 1976

THE BIOMEDICAL INTERDISCIPLINARY CURRICULUM PROJECT

SUPPORTED BY THE NATIONAL SCIENCE FOUNDATION

A opinions, findings, conclusions or recommendations expressed herein are those of the author and do not necessarily reflect the views of the National Science Foundation.

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PREFATORY NOTE TO THE INSTRUCTOR:

The central concept of this unit is social influences on behavior. Although biological and environmental conditions compel all humans to behave in order to survive, there are variations in behavior among individuals and, over time, variations in the behavior of a single individual. These variations are often the consequences of social forces that influence a person to select one behavior rather than another. These social forces are referred to in this unit as "influences." Students investigate the influences of peers, persons other than peers, impersonal messages such as advertisements and governmental controls among others. By the conclusion of this unit students should have a much broader understanding of how each of these sources of influence affects their behavior and the behavior of others.

In addition to these substantive concepts, students encounter certain inquiry processes that were first introduced in Unit I. By the conclusion of this unit, students should have increased their ability to use the following techniques: participant observation, data manipulation, questionnaire survey, field manipulation and laboratory experimentation. Unit IV contains numerous activities, and the relationships among these may not always be obvious to students. However, by the conclusion of the unit students should be able to see how each of the activities (and the processes used in each activity) contributes to knowledge about social influences on behavior.

To accomplish these goals it has been necessary to introduce some basic ideas from social psychology and sociology. Terms such as "significant other," "reference group" and "social norms" are introduced. The relationship of these terms to specific disciplines is not emphasized because it is more important for students to understand the usefulness of the terms in explaining human behavior than to identify the discipline in which each term is used. The best test of a student's understanding of these and other terms is the frequency with which students use the terms correctly in explaining human behavior. Continued use will make the terms more familiar.

Several activities that relate to lessons with similar content in Biomedical Science are identified as they appear. There is a supplementary lesson, which should be taught shortly after Science Lesson 5. There is also a supplementary lesson in Biomedical Mathematics, which should be used after each of the two surveys in this Social Science unit (lessons 7-10 and 16-20).

Details in the form of a summary of the thirty lessons in this unit follow. This summary is included so that you can see at a glance the major emphasis of the unit and the relationships among lessons.

Introduction to Influences on Behavior (Lessons 1-4): Students complete short, self-administered questionnaires identifying influences on behavior in general. They then identify the sources, media and functions of influence on their own behavior in particular areas, and rank the sources and media in importance.

Small-Scale Influences on Behavior (Lessons 5-10): In a controlled experiment, some students are asked to complete a task within a group. Other group members do not respond as expected, and the reactions of the subjects are recorded and discussed. Students then develop hypotheses about the importance of categories of persons according to their influence on high-school students. Students test these hypotheses by administering a questionnaire to other students.

Social Norms (Lessons 11-15): Students experience a classroom situation in which you behave differently than you would if you followed social norms. After discussion, students rank the importance of several norms, observe demonstrations of norms influencing behavior, and observe and record reactions when they violate minor social norms in their community. With the assistance of the Value Statement Analysis Instrument, students discuss the relationship between social norms and personal values.

Attitudes toward Drug Use (Lessons 16-21): Students determine their own attitudes toward drug use and, through questionnaire survey methods, measure the

attitudes of teachers, parents and other students. Students organize the data and generalize from their findings. They also identify influences on drug use in addition to the attitudes of others.

Large-Scale Influences on Behavior (Lessons 22-25): Students report on the nature of advertisements found in different media outlets, analyze the contents of advertisements and discuss the functions of advertising in society. Students also record all instances during a certain period of time in which their behavior is influenced by governmental agencies, and discuss the results.

Review and Application (Lessons 26-29): Students complete the same questionnaire that introduced the unit and discuss differences between their perceptions of influences on behavior at the beginning and at the end of the unit. Students then apply some of the knowledge they have acquired about influences on behavior by designing and executing messages intended to influence other people's behavior in the interest of preventing disease.

Supplementary Lesson: In Science Lesson 5 students consider the case history of a patient with symptoms of multiple sclerosis. The Supplementary Social Science lesson is a discussion of the ethical problems that are involved in determining what and when to tell the patient.

LESSONS REQUIRING ADVANCE PREPARATION:

Several lessons in this unit require advance preparation on your part in addition to the normal reading of instructor's and students' materials. These lessons and the types of preparation required are briefly outlined below. For each lesson or sequence listed below there is (unless otherwise noted) a special Advance Preparation section in this Instructor's Manual. The Advance Preparation sections give more detail than the brief listings below. You can use the list below as a guide for deciding how far in advance to begin preparing for these particular lessons.

Lessons 5-6: Lesson 5 consists of a laboratory experiment adapted from the literature of social psychology. Before teaching the lesson you will need to select and brief several students who will participate as experimenter, recorder and "confederates," i.e., persons who will behave like subjects in the experiment but who will be prepared in advance to respond in certain ways. You will also need to select the real subjects and to arrange furniture in the classroom for the experiment. This sequence includes several masters to be reproduced.

Lessons 7-10: This sequence includes a survey of non-Biomedical students. You will need to decide in advance how you will have your students conduct the survey. The options are described in Part C of the Suggested Teaching Procedures for this sequence.

Lesson 11: This lesson is designed to illustrate the concept of social norms by introducing students to a classroom situation that (1) departs from their normal expectations and (2) does not give them any clues as to how they are expected to act--i.e., a situation in which social norms are lacking. You should decide in advance how to arrange (or, rather, disarrange) your classroom for this lesson.

Lessons 16-20: This sequence includes a survey of (1) non-Biomedical students, (2) Biomedical students' parents and (3) teachers in your school. The following advance preparations are required.

1. Draw a random sample of your faculty and administer the questionnaire yourself in advance of this sequence of lessons.

2. Arrange for some of your students to visit other classes for the purpose of administering the questionnaire to students.

3. Arrange with the Biomedical Science instructor to set aside a three-period block of time (on the day of Social Science Lesson 18) in which both you and the Science instructor will be present to supervise the tabulation of data from the survey.

Lessons 22-24: In these lessons students will be analyzing various sorts of advertising. You may wish to acquire some back copies of medical journals for students to use as sources of ads for this activity. See the Assignment at the end of Lesson 21 for further details.

Lesson 26: During this lesson you will need to return the papers that students completed during lessons 1-4.

Lesson 27: Before teaching this lesson you will need to tally responses to a questionnaire your students completed in Lesson 26, and to convert to percentages the tallies from this questionnaire and from the questionnaires completed in Lesson 1.

Lessons 28-29: During these lessons students will be preparing messages to influence the behavior of others in the interest of preventing disease. You may wish to arrange for outside experts (in media and preventive health care) to evaluate the messages, and you may wish to arrange for the use of some or all of the messages on campus or in the public media. See parts D and E of the Suggested Teaching Procedures for further details.

Supplementary Lessons: There are two supplementary lessons that you and the other Biomedical instructors should schedule for use at the appropriate times. You should discuss them with your colleagues a few days in advance of the times when they are to be taught. (There are no special Advance Preparations sections for these lessons.)

1. The supplementary lesson in this unit is designed to be used in Social Science class soon after the teaching of Science Lesson 5. The supplementary lesson is a discussion of value conflicts that arise in a fictional case study in the Science materials.

2. A supplementary lesson in Biomedical Mathematics Unit IV is designed to be used in Mathematics class soon after Social Science Lesson 10 and again after Social Science Lesson 20. The supplementary lesson is a chi-square analysis of the data that students will generate by conducting surveys in Social Science lessons 7-10 and lessons 16-20.

A NOTE ON FORMAT:

In the Instructor's Manual for this unit and succeeding units you will find some notations in square brackets. For example, the following notation appears on the second page of the first lesson:

[Read the two masters.]

The masters are, in this case, questionnaires to be completed by students. (All materials listed in square brackets appear in the Student Text unless otherwise noted.) The Masters referred to are listed by title in the Supplies section of the lesson plan; they appear both as separate sheets, which you may use as masters for reproduction, and as pages at the end of the lesson plan in this book.

The notations in square brackets have been included to help you find your way through the student materials with a minimum of confusion when you first encounter these lessons. When you are reading a lesson for the first time, begin at the beginning of the lesson plan in this book. When you come to a notation in square brackets, read the indicated materials. Then resume reading the lesson plan where you left off.

By using these notations in this way you will encounter all student materials in a context such that the student materials help you make sense of the lesson plans, and the lesson plans help you to make sense of the student materials. In addition, you will encounter the student materials in approximately the order in which students will encounter them as you teach the lessons.

Lessons 1 through 4: INTRODUCTION TO INFLUENCES ON BEHAVIOR

These four lessons introduce the question at the heart of this unit--"What Influences Human Behavior?"--by asking students to think about some of the sources of influence on their own behavior, the media through which influences reach them and the functions such influences serve.

Although four lessons are allocated to the activities suggested, you may wish to give more or less time to them. The activities can be easily expanded or contracted to occupy as much time as you wish. The homework assignments can be completed in class.

These lessons introduce for discussion some topics that students might perceive as threatening, embarrassing or inappropriate for discussion in school. If you customarily maintain a classroom atmosphere in which students feel free to discuss their private lives openly, then you will know how to conduct discussions in which students are relatively open about influences on their own behavior. If not, then you may wish to exercise sufficient control over class discussions to keep attention focused on generalities rather than on the experiences of individual students.

The questions raised in these first four lessons will be raised again at the end of this unit. At that time students will be asked to consider the same questions again, and will have the opportunity to compare their answers from the beginning of the unit with their answers at the end. Students will then be able to see whether the inquiries they have conducted during the intervening lessons have altered their judgments as to which are the most important sources, media and functions of influence on their own behavior.

LESSON 1: QUESTIONNAIRE ON INFLUENCES ON BEHAVIOR

SYNOPSIS:

Students respond to a brief questionnaire about influences on behavior; half the class answers questions about influences on their own behavior and the other half answers the same questions about influences on "most people's" behavior. The class then discusses the results of the questionnaire.

OBJECTIVES:

The student will:

- answer true-or-false questions about influences on the behavior of himself or others.
- generalize from data representing the class' answers to a questionnaire.
- suggest explanations for differences between (1) answers to questions about influences on the behavior of respondents and (2) answers to questions about influences on the behavior of people in general.

SUPPLIES:

(Both masters are for use in class.)

Master: Questionnaire (labeled "I"; one copy each for half the class)

Master: Questionnaire (labeled "M"; one copy each for half the class)

STUDENT TEXT:

Who Influences Your Behavior? (homework reading and assignment)

SUGGESTED TEACHING PROCEDURES:

A. Assign Numbers to Students: During the first four lessons of this unit students will be writing down some personal information about themselves, which you will be collecting for tabulation and safekeeping and will return to students at the end of the unit. In order to provide a measure of protection for the confidentiality of these materials, you should allow students to identify their papers with numbers instead of names. Begin the first lesson by assigning each student a number at random. The simplest way to do that is to write numbers on slips of paper and to have students draw them from a hat. Be sure students are aware that they will need to remember their numbers several weeks from now, and encourage them to record their numbers in a safe place, such as on the back of a driver's license or student-body card.

[Read the two masters.]

B. Administer the Questionnaires: There are two questionnaires, one labeled "I" in the upper right-hand corner and one labeled "M." The one labeled "I" asks them to record certain information about themselves; the one labeled "M" asks them to record the same information about "most people." You should administer one questionnaire to approximately one half of your class and the other questionnaire to the other half, without tipping off the students that there are two different questionnaires. (The ploy will be revealed as soon as students have completed the questionnaires.) The simplest way to do that is to pass the questionnaires face-down along rows of students, using one questionnaire on one side of the classroom and the other questionnaire on the other side. The numbers of students responding to the two questionnaires do not have to be equal, but they should be as nearly equal as you can make them without giving away the ploy.

When you have distributed the questionnaires, ask students to turn them face-up, record their numbers in the space provided, and check "T" or "F" for each of the six questions. Then collect the questionnaires, keeping "I" questionnaires in one pile and "M" questionnaires in another.

C. Tabulate the Data: You can tabulate the data directly on the chalkboard, or you can have students help you tabulate them on paper and then transfer the totals to the chalkboard. Tabulate "I" questionnaires and "M" questionnaires separately, using the form shown below.

	"I"		"Most People"	
	T	F	T	F
1				
2				
3				
4				
5				
6				

D. Discuss the Data from the Questionnaires:

1. Differences between Groups: Examine the tabulated data to find differences between the "I" column and the "MOST PEOPLE" column. It is of course impossible to predict whether there will be differences or, if so, how many or how large they will be. However, it is often the case that people respond in one way to a question about themselves and in another way to the same question about "most people" or "other people." In a society (and an age group) in which individual autonomy is widely valued, normal self-esteem often leads people to credit themselves with more autonomy than others or to be more concerned about their own perceived lack of autonomy than about any lack of autonomy they perceive in others.

If there are large differences between the two columns on any question, remind the students what the question was and ask them to suggest possible explanations for the difference. It may be necessary to caution students against generalizing from these data to any group larger than half the class; the samples are too small, and they are not scientifically selected or matched.

2. Generalizing about Either or Both Groups: Whether or not there are differences between the responses of the two halves of your class, it should be possible for students to make some generalizations about the opinions of one or both halves of the class. Do students think they (or others, or both they and others) are strongly influenced? are more strongly influenced by strangers than by people they know? are usually unable to resist the influence of others?--and so on.

3. Comparing Questions: Certain sets of questions make for interesting comparisons. For example, questions 1, 3 and 5 all relate to the degree to which students think people are influenced by other people: how strongly people are influenced, how difficult it is to resist influence and whether students feel people are excessively influenced by others. Note that the answer to Question 5 is a value statement. Are there differences among the answers to these three questions for either group? If so, why?

Questions 2 and 4 are about the relative amounts of influence that students feel are exerted by "real, live people" on the one hand and by the nameless and often faceless people in the mass media on the other hand. Are there differences between the answers to these two questions? If so, why?

Question 6 is not directly comparable with other questions in this way, but it does lead to another question which, if students answer in the affirmative, should help to provide motivation for the remainder of this unit: Would you like to know more about who (or what) influences you, and how, and why?

ASSIGNMENT:

Distribute the Social Science Student Text, Unit IV.

[Read "Who Influences Your Behavior?"]

In preparation for the next lesson, ask students to read "Who Influences Your Behavior?" in the Student Text, and to go through the written activity suggested in the reading. The reading asks the student to pick one area of behavior (e.g., environment and ecosystem, work and money, or religion) and think about influences on his own behavior in that area. Point out to the class that one of these areas, drug use, will receive considerable attention during this unit in both Biomedical Science and Biomedical Social Science. Students who like to bring together what they learn in the two courses will therefore do well to choose this area of behavior. (Students who think they, or someone they know, might have a drug-use problem will do well to choose it too.)

You may wish to add other "areas of behavior" to the list presented in the reading. You also may wish to allow students to select areas which are not on the list but which are important to them.

MASTER: QUESTIONNAIRE

I

NUMBER _____

T F

__ __ 1. I AM STRONGLY INFLUENCED BY OTHERS.

__ __ 2. I AM MORE STRONGLY INFLUENCED BY STRANGERS AND PEOPLE I'VE NEVER SEEN THAN BY PEOPLE I KNOW.

__ __ 3. I FIND IT HARD TO RESIST THE INFLUENCE OF OTHERS MOST OF THE TIME.

__ __ 4. I AM MORE STRONGLY INFLUENCED BY THINGS SUCH AS MAGAZINES, TELEVISION AND MOVIES THAN BY REAL, LIVE PEOPLE.

__ __ 5. I FEEL THAT I SHOULD BE MORE INDEPENDENT OF THE INFLUENCE OF OTHERS THAN I AM.

__ __ 6. I REALLY DON'T KNOW WHO OR WHAT INFLUENCES ME.

MASTER: QUESTIONNAIRE M

NUMBER _____

T F

__ __ 1. MOST PEOPLE ARE STRONGLY INFLUENCED BY OTHERS.

__ __ 2. MOST PEOPLE ARE MORE STRONGLY INFLUENCED BY STRANGERS AND PEOPLE THEY'VE NEVER SEEN THAN BY PEOPLE THEY KNOW.

__ __ 3. MOST PEOPLE FIND IT HARD TO RESIST THE INFLUENCE OF OTHERS MOST OF THE TIME.

__ __ 4. MOST PEOPLE ARE MORE STRONGLY INFLUENCED BY THINGS SUCH AS MAGAZINES, TELEVISION AND MOVIES THAN BY REAL, LIVE PEOPLE.

__ __ 5. I FEEL THAT MOST PEOPLE SHOULD BE MORE INDEPENDENT OF THE INFLUENCE OF OTHERS THAN THEY ARE.

__ __ 6. MOST PEOPLE REALLY DON'T KNOW WHO OR WHAT INFLUENCES THEM.

LESSON 2: SOURCES OF INFLUENCE ON BEHAVIOR

SYNOPSIS:

Students discuss their responses to a homework assignment.

OBJECTIVES:

The student will:

- identify an area of his own behavior in which he believes he is strongly influenced by others.
- identify at least five types of persons who he believes are sources of influence on his behavior in the area he has selected to investigate.
- rank at least five sources of influence according to the degree to which he believes those sources influence his behavior in the selected area.

STUDENT TEXT:

Who Influences Your Behavior? (for discussion in class)

How Does Influence Reach You? (homework reading and assignment)

SUGGESTED TEACHING PROCEDURES:

The primary instructional objective of this lesson is to enable students to add to their lists of sources of influence on their behavior. In the preceding homework assignment each student has been asked to list the sources of influence on his knowledge, values and actions in an area of his choice, and to rank at least the top five sources, i.e., the five types of people who the student thinks have the most influence on his behavior in the chosen area.

The next assignment will ask the student to write down brief descriptions of situations in his own experience in which these most influential types of persons have influenced his behavior. In order to give the student the widest possible selection of sources of influence to think about, you should encourage students to share their thoughts about which sources of influence they perceive as most important.

Parts A and B below suggest two ways of conducting discussions: among members of the class as a whole, and among members of smaller groups. You may wish to use either type of discussion or a combination of both types.

A. Class Discussion: In preparation for a full-class discussion, you may wish to reproduce on the chalkboard the list of twelve "SOURCES OF INFLUENCE" from the reading "Who Influences Your Behavior?" You might ask students to indicate, for each source of influence, either (1) how many included the source in their first (unranked) list, (2) how many included it in their list of five most important sources or (3) how many ranked it first, how many ranked it second, how many ranked it third and so on. In any case, the questioning procedure will produce on the chalkboard a tally of sources of influence.

The function of the questioning process should be to raise questions in the minds of students who have omitted from their lists some sources of influence which other students have included, or have given low rankings to sources that other students ranked high. You can encourage discussions of such questions by pointing out any sources of influence that were named (or ranked high) by only a few students: "Only three of you are strongly influenced by public personalities?" "Nobody but Harry is influenced by fictitious people?"--and so on.

During the discussion of sources of influence on which students disagree, you should encourage students to think of (and describe for the class) situations in

which the types of people in question actually influence people's behavior. The discussion of examples may be in terms of the students themselves or in terms of young people generally or just people in general.

B. Group Discussions: Group discussions of the homework assignment can serve much the same purposes as a full-class discussion. Within each group, students might be asked to share their lists of sources of influence, to identify the sources that have been omitted from some lists but included on others, to identify the sources that have been ranked high on some lists and low on others, and to discuss these differences among members of the group. The group's objective should be to ensure that no member has omitted a source, or ranked it low rather than high, because of an oversight. It is not desirable that all group members' lists end up being identical; different students are influenced by different sources. It is desirable, however, that students be encouraged to think about sources of influence on their own behavior which they have failed to notice, but which other students have included on their lists.

You might divide the class into groups according to the areas of behavior which students have chosen to investigate. The difficulty of establishing such groups will of course depend on the areas of behavior students have chosen. However, it should be possible to establish some groups in which all students have chosen the same area of behavior, and one or more other groups combining those areas of behavior which have been chosen by only one or two students. The commonality of areas of behavior within each group is less important than the opportunity students will have in groups to talk with one another in a less public and therefore, for some students, less threatening situation.

Within each group students should be encouraged to share examples of influence on behavior by those sources on which members of the group disagree.

C. A Note on Discussion of Influences on Drug Use: Drug use is one of the more controversial areas of behavior that have been suggested as topics for discussion. One source of controversy is the question of what constitutes drug use. For the purposes of this course it is suggested that you encourage students to think about drug use in the widest possible sense, to include all of the categories listed below. (The treatment of drugs in Science Unit IV is similarly broad.)

1. Use of prescription drugs or other drugs under medical supervision.

2. Illicit use of prescription drugs, e.g., use of black-marked barbiturates.

3. Use of over-the-counter drugs.

4. Use of cosmetics, vitamin supplements and other substances which may affect the health of the user.

5. Use of substances which may be considered foods as well as drugs, such as coffee, tea and cola drinks (caffeine), wine and beer.

6. Use of "recreational" drugs, such as alcohol and tobacco, whose use is generally socially acceptable for at least some people.

7. Use of illegal drugs, such as marijuana, hashish, cocaine, mescaline, psilocybin, LSD and heroin.

Note that you can introduce any or all of these types of drug use for discussion either by the class as a whole or by a group of students who have chosen to examine influences on their own drug use. Note also that, if you consider the whole range of types of drug use, you can introduce practically all possible sources of influence as acting directly or indirectly on students. Some types of drugs (over-the-counter, cosmetics and vitamins, foods, alcohol and tobacco) are widely advertised to the general public. Prescription drugs are widely advertised in medical journals, and doctors influenced by this advertising may in turn influence students. The use of prescription drugs is also strongly influenced by government

regulation and by the judgment of (anonymous) authorities in medicine and science. Illegal drugs are frequently the subject of news reports, popular music, television shows and movies, and their use is of course also strongly influenced by government regulation, peer pressure and the expectations of family members.

D. Preparation for Homework Assignment: Reserve the last few minutes of the class meeting for students to reconsider their lists of five most important sources of influence on their behavior in the areas they have chosen. (Some students may wish to switch to a different area and compile a new list). Before they begin the homework assignment, students should be sure that their lists of five most important sources of influence reflect what they have heard in today's class discussions.

ASSIGNMENT:

[Read "How Does Influence Reach You?"]

Ask students to read "How Does Influence Reach You?" in the Student Text, and to complete the activity suggested at the end of the reading. Note that the assignment asks students to write down information about themselves which they may consider very personal and private; you may wish to reassure students that they will not be required to discuss personal information in class and that what they write down you will hold in confidence, even though papers are identified by numbers rather than by names. The next discussion will be about the media through which influence reaches students, not about the particular experiences that students have described in completing the homework assignment. You may wish to tell students that you will be collecting these papers only to ensure that students will have the opportunity to look at them again at the end of this unit.

LESSON 3: MEDIA OF INFLUENCE ON BEHAVIOR

SYNOPSIS:

Students discuss their responses to a homework assignment.

OBJECTIVES:

The student will:

- briefly describe at least five situations in which he believes others have influenced his behavior in the area selected, identifying:

  type of behavior (knowledge, values, actions) influenced,

  source of influence and

  medium of influence

- rank at least five media of influence according to the degree to which he believes information coming through the media influences his behavior in the area selected.

STUDENT TEXT:

How Does Influence Reach You? (for discussion in class)

What Does Influence Do for You and for Others? (homework reading and assignment)

SUGGESTED TEACHING PROCEDURES:

The instructional objectives and suggested procedures for this lesson are much the same as those for the preceding lesson, except that in this lesson students should discuss the media through which influential messages reach them, rather than the types of person ("sources") with whom the messages originate. Groups may again be formed on the basis of which areas of behavior students have chosen to investigate. Alternatively, they may be formed on the basis of sources of influence: each group might comprise all students who identified the same source of influence as having the most influence on their behavior in the areas they have chosen. If you used groups in the preceding lesson and they worked well, the latter alternative might enable you to use groups again while altering the composition of groups and thus avoiding some of the monotony of repeated group work.

Note that, if groups are formed on the basis of areas of behavior, each group will be discussing the media which bring the most influential messages on a particular area of behavior. If groups are formed on the basis of sources of influence, each group will be discussing the media which bring the most influential messages from several sources, but particularly from a single source (i.e., a single type of person) whom group members have identified as being important in their lives.

As in the preceding lesson, the many varieties of drug use may serve as examples for discussion in which you can point out the variety of media through which influential messages reach students. Every medium of communication in our society brings messages about some kinds of drug use to some people some of the time.

Again, reserve the last few minutes of the class period for students to revise their lists and rankings from the preceding homework assignment. These lists will not be crucial in completing the next assignment, but each student should have a well-considered list of "most important media" which he can look at again at the end of the unit, to see whether he has changed his mind about which media bring the messages that most strongly influence his behavior in the area he has chosen to investigate.

ASSIGNMENT:

[Read "What Does Influence Do for You and for Others?"]

Assign "What Does Influence Do for You and for Others?" in the Student Text, and ask students to complete the activity suggested at the end of the reading. Note that the last three steps are optional. You may want to require some or all of these steps. Whether or not they are included in the homework assignment, they can be discussed in the next lesson.

LESSON 4: FUNCTIONS OF INFLUENCE ON BEHAVIOR

SYNOPSIS:

Students discuss their responses to a homework assigmment.

OBJECTIVES:

The student will:

- identify at least one possible function of the influence exerted on him in each of the situations described in the assignment preceding Lesson 3 ("How Does Influence Reach You?").

- identify any functions that are frequently served by influence coming from particular sources.

- identify any functions that are frequently served by influence coming through particular media.

STUDENT TEXT:

What Does Influence Do for You and for Others? (for discussion in class)

SUGGESTED TEACHING PROCEDURES:

This is the last in the sequence of introductory lessons for this unit. Parts A and B below indicate two introductory discussion activities that you might find useful; either one or both may be used.

A. Class Discussion: A full-class discussion will enable all students to hear what others think are the functions of the communications that most strongly influence their behavior in the areas they have chosen to investigate.

B. Group Discussion: Groups may be formed in any of several ways.

1. Areas of Behavior: Each group might comprise students who have chosen to investigate the same area of behavior, as was suggested in Lesson 2.

2. Sources of Influence: Each group might comprise students who (at the end of Lesson 2) have identified the same source of influence as the most important in whatever area of behavior they have chosen to investigate, as was suggested in Lesson 3.

3. Media of Influence: Each group might comprise students who (at the end of Lesson 3) have identified the same medium of influence as the most important in whatever area of behavior they have chosen to investigate. In each group formed on this basis students would be discussing the possible functions of influential messages that come through several media, but particularly through a single medium that students have identified as important to them.

C. Discussion Based on the Optional Questions: The three optional questions (6, 7 and 8) at the end of "What Does Influence Do for You and for Others?" in the Student Text ask students to make certain comparisons that might help them to sort out and rationally respond to some of the sources of influence on their behavior. Whether or not students answered these questions as a part of the preceding homework assignment, any or all of the optional questions can be used as the basis for a class discussion.

1. Sources and Functions: Question 6 asks the student to construct a table of SOURCES OF INFLUENCE and FUNCTIONS OF INFLUENCE, and to make tally marks in the cells of the table which correspond to the influential messages the students have described from their own experience. The table might be constructed on the chalkboard and filled in with data from the entire class. (Students should first fill in the table individually; you can then find out what totals to put in the cells on the chalkboard by asking for a show of hands on each cell.) You can then ask students to generalize about the results. Do messages from one type of source (e.g., PARENTS) seem consistently to serve any particular function or functions (e.g., MORAL INSTRUCTION, MAINTAINING COHESION OF SOCIAL GROUPS) in the situations the class as a whole has chosen to analyze?

2. Media and Functions: The same activity described in the preceding paragraph can also be done with a table of MEDIA OF INFLUENCE and FUNCTIONS OF INFLUENCE, as suggested in Question 7. Do messages coming through one medium (e.g., TELEVISION) seem consistently to serve any particular function or functions (e.g., ADVERTISING, EXPRESSIVE MESSAGES AND ENTERTAINMENT) in the situations the class as a whole has chosen to analyze?

Note: The activities described in the last two paragraphs could be carried out in groups of students formed on the basis of the areas of behavior that students have chosen to investigate. Each group's results would then yield source-function correspondences and medium-function correspondences for messages that students feel influence their behavior in a particular area, such as drug use. Each group could report to the class on the correspondences it identified.

D. Why Are the Functions of Influence Important? A brief discussion of this question should serve to illustrate to students that they know the answer: Some influential messages serve functions that promote the interests of others, possibly to the detriment of the students' own interests; some influential messages may even attempt to persuade students to do things that violate their own values.

E. Collecting the Papers: At the end of the class period, collect all the papers the students have written in response to the homework assignments so far. Assure the students that the papers will be kept confidential and will be returned to their authors at the end of the unit.

ASSIGNMENT:

There is no assignment in preparation for the next lesson. If students ask, you can tell them that in the next lesson they will participate in an experiment on perception.

LESSONS 5 through 10: SMALL-SCALE INFLUENCES ON BEHAVIOR

These lessons include two inquiry activities: an experiment in class, using Biomedical students as subjects, and a survey using other students as respondents.

The experiment (lessons 5 and 6) illustrates the influence of group pressure on the judgment of an individual in the group.

The survey (lessons 7 through 10 enables students to determine which types of people other students perceive as having the most important influence on their lives.

LESSONS 5 and 6: INFLUENCES OF A GROUP

SYNOPSIS:

These two lessons include an experiment and a discussion of the results. Seven students, seated in front of the class, attempt to select one of three figures on a card which most closely resembles a figure on another card. They do this twelve times, with twelve different pairs of cards. The correct answer for each pair is obvious, but for seven of the twelve pairs six students give the same incorrect response. The remaining student does not know that the other six have been told in advance to respond inaccurately. The same experiment is repeated with a second group of seven students. Then both critical subjects (uninformed students) are interviewed about their reactions to being a "minority-of-one." In discussion students consider the ethics of research on human subjects and the usefulness of the experiment for answering the question, "What influences human behavior?"

Note: Lessons 7-10 require advance preparation for the administration of a questionnaire. Please read Part C of the Suggested Teaching Procedures for lessons 7-10 and determine how you will proceed.

OBJECTIVES:

The student will:

- observe and report on the reactions of a person who serves as a minority of one in a group.
- state implications of the results of the experiment for his own behavior.
- identify value conflicts involved in the use of deception in experiments on human subjects.

SUPPLIES:

(All supplies listed are for use in class.)

Masters: Twelve numbered cards, each with a standard figure

Masters: Twelve numbered cards, each with three similar figures

Master: Instructions for Experimenter (one copy)

Master: Instructions for Interviewer (one copy)

Master: Instructions for Subjects (six copies)

Master: Instructions for Subjects--with responses in corner (one copy)

Master: Tally Sheet (two copies)

Master: A Minority of One (one per student)

ADVANCE PREPARATION FOR THESE LESSONS:

[Look over the four "Instructions" masters and the Tally Sheet.]

A. Selection of Participants: The most important task is the selection of students who will participate in the experiment. Select one student to be the experimenter. If you feel that no student can fulfill the duties of the experimenter you can place yourself in this position. The experimenter will brief the subjects, give instructions, hold up the cards and in general see that everything goes well. The experimenter should also conduct the interview with the two critical subjects after the experiments are completed, but you can take over this function if you think it advisable to do so. Since these functions can be divided, separate instruction sheets are provided for experimenter and interviewer.

Select a second student to be the recorder. This task is not so demanding but it does require a student who can pay close attention to answers given by the critical subject and record them accurately.

Twelve students must be selected to serve as "subjects." Their task is difficult in that they will need to appear genuinely involved in attempting to give correct responses even though they will know in advance that they are deceiving the critical subject. These twelve students will know the nature of the experiment a day in advance; they must not reveal it to others or the experiment will fail. Select students who can take this responsibility seriously and who can play the role of subject even though they are actually deceivers.

Finally, select two students to serve as critical subjects, one for each experiment. These are the most important selections you will make. The students selected will perform in an experiment not knowing that they are being deceived in front of their peers. Although two students will experience this uncomfortable situation and half the class will not know during the experiment that the two students are being deceived, it is nevertheless true that two persons stand in a potentially embarrassing position. Select these two students carefully, using as your criteria their ability to accept the purposes of the experiment as sufficient justification for your "using them," their strong self-concepts and their emotional stability. You may want to seek the advice of their counselor or the school psychologist before making a final decision.

B. Preparation of Students: The day before the experiment is to be conducted or before class on the same day you should arrange to meet with the experimenter, the recorder and the twelve "subjects," but not with the two critical subjects. This may be difficult, since the two critical subjects must not know that you are meeting with the others. You may not be able to meet all fourteen students at the same time, although it would be preferable to do so. When you meet with them, explain what is going to occur and be certain that none of them has any objection to deceiving a fellow student for purposes of the lesson. If any does you should select a substitute. (You may wish to select one or two alternates as well.) The following instructions to the participants are for your use; paraphrase them any way you wish.

FOR "SUBJECTS": You will be asked to participate in an experiment along with other students who are not here. The experiment will be conducted twice. The first time, six of you will serve as "subjects" along with one student who is not here. In each experiment, the seventh student must not know that his six fellow-subjects have been selected in advance or that you know anything about the experiment. As the experimenter (here name the student who will serve as experimenter) explains the experiment in class, pay attention as if it were the first time you had heard the instructions. The experiment is designed to determine whether a person will go along with six others in a group even when the six are responding inaccurately. The seventh student will not know that you are deliberately giving wrong answers in what he thinks is an experiment in perception.

The experiment will go like this: You will be shown a pair of cards (show them a pair of cards), one with one figure on it and one with three similar figures on it. You will be asked to indicate which of the three similar figures

on the second card most closely resembles the figure on the first card, and the seventh student in each group will think you are all trying to select the figure which most closely resembles the single figure on the first card. You'll each call out your response (A, B or C) in turn, and when all seven students have called out their responses another pair of cards will be shown. Altogether you will see twelve pairs of cards and call out twelve responses. However, for seven of the twelve pairs, the six of you will all give the same wrong answer. We will be able to see whether the seventh student goes along with you or insists that his choice is correct. For this reason the seventh student is called the critical subject. When the experiment is finished, six more of you will join another critical subject to form a new group of seven students and the same procedure will be followed. I will ask you to participate when class begins tomorrow; remember, act as if you know nothing about the experiment, act as if you are honestly trying to give a correct response, and keep a straight face when the critical subject is responding.

How will you know when to give a wrong response? You'll be seated in a row in front of the class. Each of you, including the subject, will be given an instruction sheet which tells you what to do. One of you will be seated in the first chair of the row and will respond first. On that person's instruction sheet, in the upper right-hand corner, will be printed the responses you are to give for each of the twelve cards. The rest of you should, after appearing to think about it, give exactly the same response. Incidentally, the critical subject will be the sixth person in the row.

FOR THE EXPERIMENTER: Tomorrow you will be conducting an experiment; what I've just told the twelve participants gives you an idea of what you will be expected to do. I'll announce that the class is going to participate in an experiment in perception and that you will be in charge of it. Then I will select seven students, including six of these people, to participate in the first round as subjects. Be certain that you seat them so that the subject who is not here will be in the sixth seat. Then distribute the instruction sheets to the subjects, being certain that the person in the first seat gets the sheet that has answers listed in the upper right-hand corner. Let the subjects have time to read the instruction sheet and then answer any questions they may have.

When this is done, hold up the two cards with the number 1 in the corner and tell the subjects to announce by letter which figure on the three-figure card most closely resembles the one on the other card. Tell them that the subject in the first seat is to speak first, then the subject in the second seat, and so on down the line. When all seven subjects have announced their responses, put down the first pair of cards; then hold up the second pair of cards and proceed as before. When all twelve pairs of cards have been viewed and the responses given, thank the subjects. Tell them that you are going to conduct the same experiment with another group of seven students, and that when they have completed it the results will be explained and discussed. Tell them to turn their instruction sheets face down and leave them. Ask them to return to their seats, and I will select seven more students, including the remaining six people here, for the second experiment. Proceed as you did with the first experiment.

FOR THE INTERVIEWER: (Give these instructions to the experimenter if you want him to conduct the interview. We recommend that you let the experimenter act as interviewer. It is preferable to leave the impression that the student participants were in on the deception. You should take over the interview yourself only if it is your judgment that the student experimenter cannot handle it.)

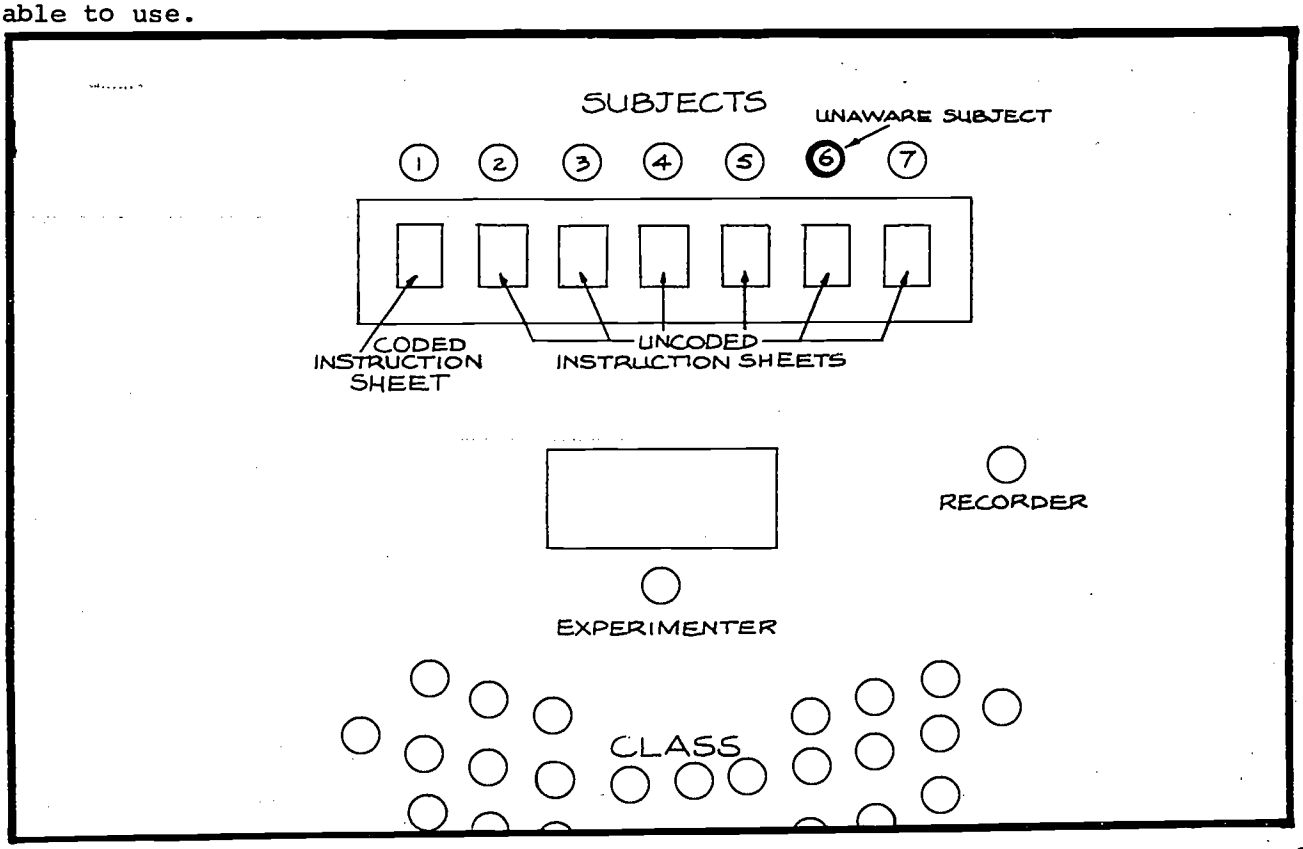
After the second experiment, ask the critical subjects from both experiments to join you at the front of the room. Seat yourself near them so that the class can hear what is being said, and explain that since they did not always agree with the group you would like to discuss with them their reactions--you would like to interview them. When they are seated and you are ready to begin, tell them what actually happened. The interview sheet I'll give you will help you with this. You can take it home so that you can practice what you will be saying.

FOR THE RECORDER: Your job is important, for we need to know whether the two critical subjects go along with the group or stick to the correct responses. For the sake of appearances you will record on the sheet I will give you every response given by every student. But when each experiment is over, you will tally only the responses of the critical subject. What the class will need for their discussion is a tally of the number of times each critical subject gave a correct response when the rest of the group gave an incorrect response. Each critical subject could do this as many as seven times; the other five times he will surely go along with the group since they are all giving an obviously correct response.

You'll be seated in the front of the room so you can listen carefully. Remember to record every response so that the critical subjects will believe you are equally interested in everyone's answers.

C. Preparation of the Classroom: When you have given these instructions, spend enough time with the participating students to be sure that they clearly understand their duties. The student who is to serve as experimenter may have several questions, since his task is complicated. Impress upon the students the fact that if they reveal to anyone what is going to happen they run the risk of damaging the lesson. Give the experimenter his copy of the "Instructions for Experimenter" and (at your option) the "Instructions for Interviewer" so that he can become more familiar with his task.

Before class begins check to see that all materials are available. The "Instructions for Subjects" should be in a pile with the coded sheet on top. The cards with figures on them should be in two piles, one of cards with single figures and the other of cards with three figures. These cards should be in numerical order in each pile so that the interviewer will not lose time or get confused during the actual experiment. Finally, arrange the chairs so that seven chairs are in front of the room and facing the class, the interviewer is seated facing the seven subject chairs, and the recorder has a chair toward the front and off to one side (see figure). It is preferred that the subjects be seated behind a long table so that they can lean on it and keep their instruction sheets in front of them. The experimenter could also do a better job if he had a desk or table to use.



SUGGESTED TEACHING PROCEDURES:

[Review the four "Instructions" masters.]

A. Conducting the Experiment: The directions for conducting the experiment can be extracted from the preceding section on preparations for the lessons. Some points to remember are the following.

1. Tell the students that some of them will be participating in an experiment in perception conducted by (name the experimenter), and that the experiment will be conducted twice. The rest of the class should observe the reactions of the participating students as they attempt to respond to perception tasks. You don't need to explain how the experiment works because it will become obvious as the experimenter gives directions.

2. Announce participants for the first experiment from a list you should have prepared in advance. (The list will remind you of your selections for the six "aware" students and the single critical subject.) Give the two copies of the "Tally Sheet" to the recorder. Don't announce participants for the second experiment until the first is completed. (This will encourage students to be attentive; they will think that they may be called upon next.)

3. Help the experimenter get the subjects into the correct seats. There are only two important seating decisions. The first seat should be occupied by a "subject" who is likely to be attentive and give the responses printed on his instruction sheet without revealing that he already has the answers. The sixth seat must be occupied by the critical subject you have selected.

4. Give the two piles of numbered cards and the "Instructions for Subjects" to the experimenter and tell him the conditions and the procedures. At this point you need only observe; the experimenter will be in charge. Allow the experimenter to conduct the experiment with as little help from you as possible. However, be ready to assist him if he forgets to follow some important procedure.

5. When the first experiment is completed, the experimenter can go on to the next experiment. However, you will need to announce the participants for the second experiment; act as if you were selecting participants from the class (even though you have already made your decision). During this time the experimenter can get his cards back in order and the recorder can be completing his tallies from the first experiment.

B. Interview with the Two Critical Subjects: When the recorder has completed the tallies after the second experiment, the experimenter will ask for the results. At this point he will also ask the two critical subjects to be seated in the front of the room so that he can interview them. Although it is up to the experimenter to interview the subjects, they may be upset upon learning that they have been deceived. This can be a sensitive point in the class and you may need to intervene.

[Read the Master "A Minority of One."]

C. Assignment: Distribute the reading, "A Minority of One." If the experiment did not consume all the class time you can begin a general discussion of the implications of the experiment. The questions that are suggested for the next day's discussion (Part D below) can be included as a homework assignment. Because it is important that students read the handout we have not suggested that they also answer questions; that assignment may be too long. Use your own judgment.

D. Discussion on the Second Day: There are two distinct topics to be discussed: the implications of the results of the experiment for the question of effects on behavior, and the ethical questions that arise from the use of deception on human subjects. You should conduct the discussion with those strategies you find most successful. Some questions which may be of use follow.

Questions about Implications of the Results of the Experiment:

1. What do the results suggest about the effect of others on a minority of one?

2. Would the same results be obtained if the minority were larger--say, two or three? What if the group were larger?

3. Would the results be different if the participants did not all know one another ? Why or why not?

4. Would a difference in status make a difference in the results? What if the critical subject were a freshman and the other participants were seniors? What if the unaware subject were a student leader in school and the other participants were not?

5. What if the critical subject were female and the other participants male? Or vice versa? Would this make a difference in the results?

6. Do personality characteristics of the critical subject make much difference in the results? Why and how?

7. Does the task the group is asked to perform make a difference in the results? Would a person be more likely to give in to group pressure in some situations than in others?

8. What situations can you think of in real life that resemble the situation in this experiment? Do these real-life situations confirm the results of the experiment?

Questions about the Ethics of Using Deception in Experiments:

1. What reasons can you think of for not allowing scientists to deceive their subjects? What value principles are involved?

2. What reasons can you think of for allowing scientists to deceive their subjects? What value principles are involved?

3. What are some possible implications of prohibiting deception (and of allowing deception) in scientific research?

4. Under what conditions (if any) should deception in research be allowed?

Note: These questions have a number of valid responses. One way to impress upon students the complexity of the issue is to use a two-column format on the chalkboard; for every reason given for the use of deception there may be a reason against use of deception which counters it.

Students should conclude that the question is basically one of values, primarily a distinction between valuing knowledge and valuing honesty in dealings with human subjects. The answer is, of course, not universal; some will argue that no knowledge is worth the price of deception, others will argue that deception is acceptable because the knowledge to be obtained is valuable. The nature of the experiment may make a difference, and some students may suggest that some forms of deception (perhaps those that do not endanger or embarrass subjects) are acceptable. You will probably never reach a consensus on this; close the discussion when you believe students recognize the complexity of the issue.

ASSIGNMENT:

Unless you wish to assign some written evaluation of the "minority of one" experiment, there is no assignment.

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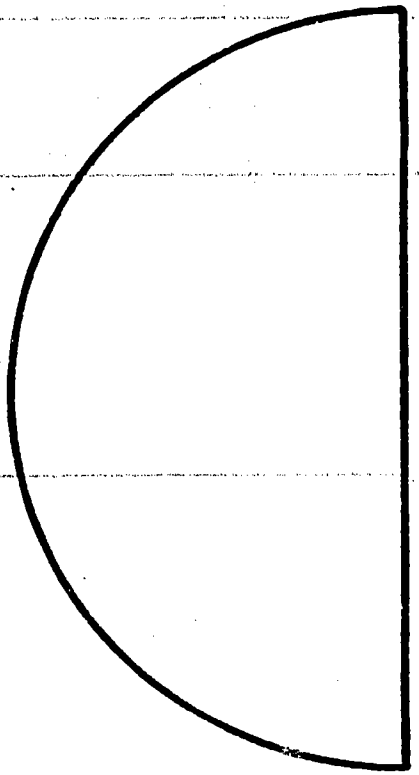

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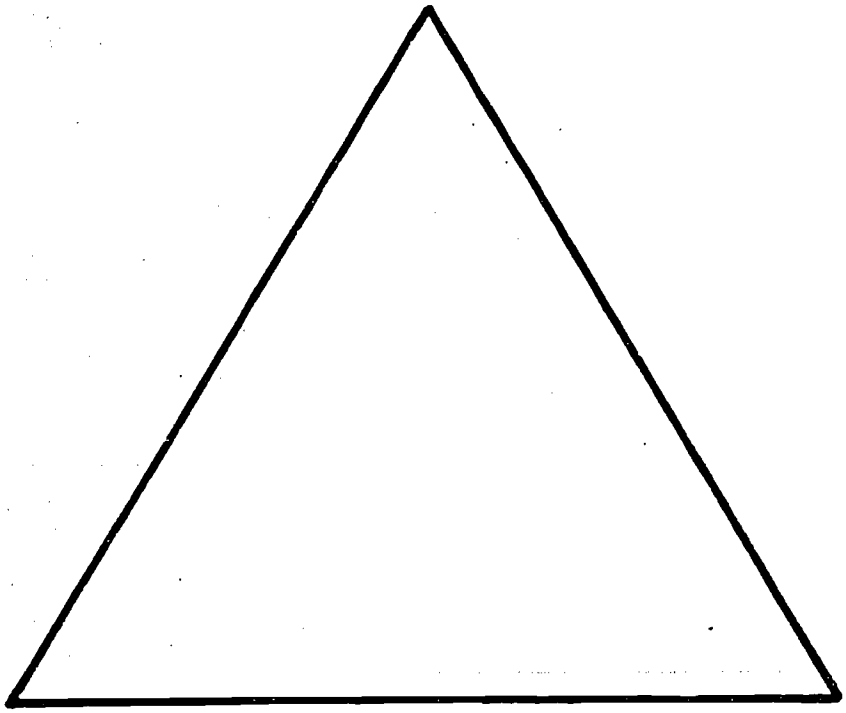

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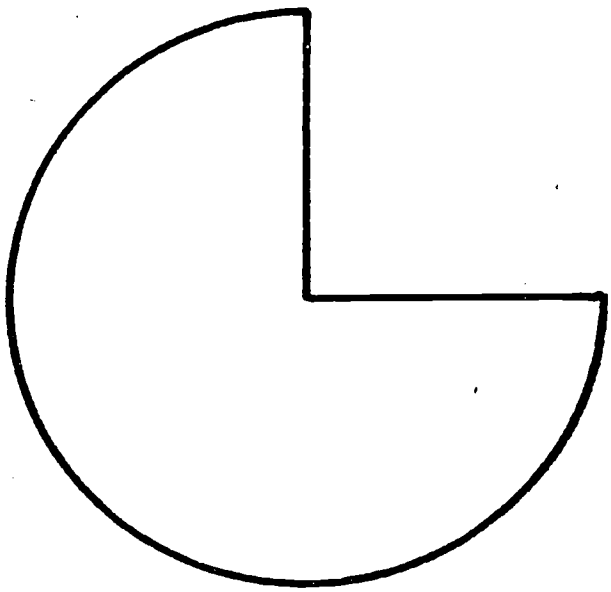

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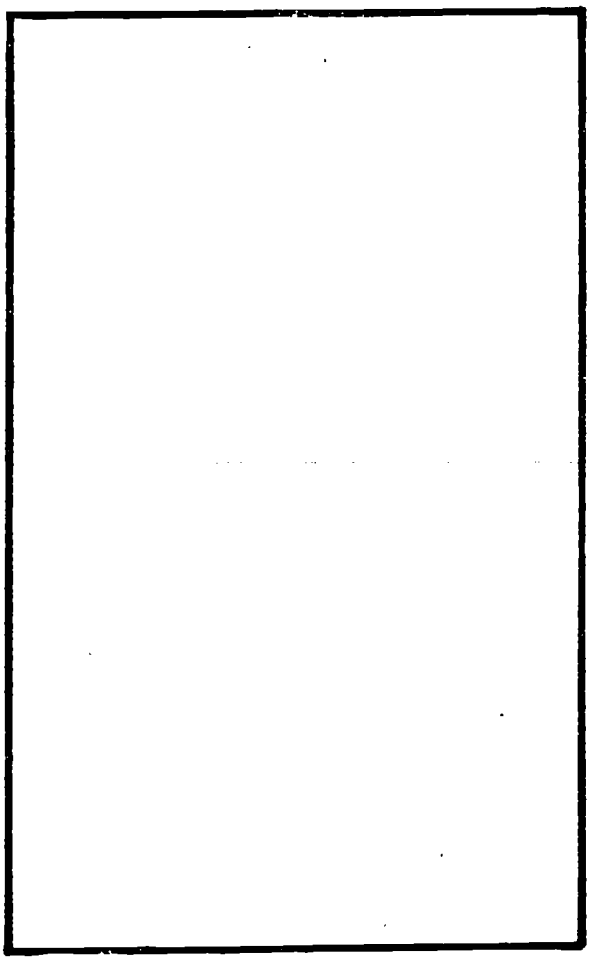

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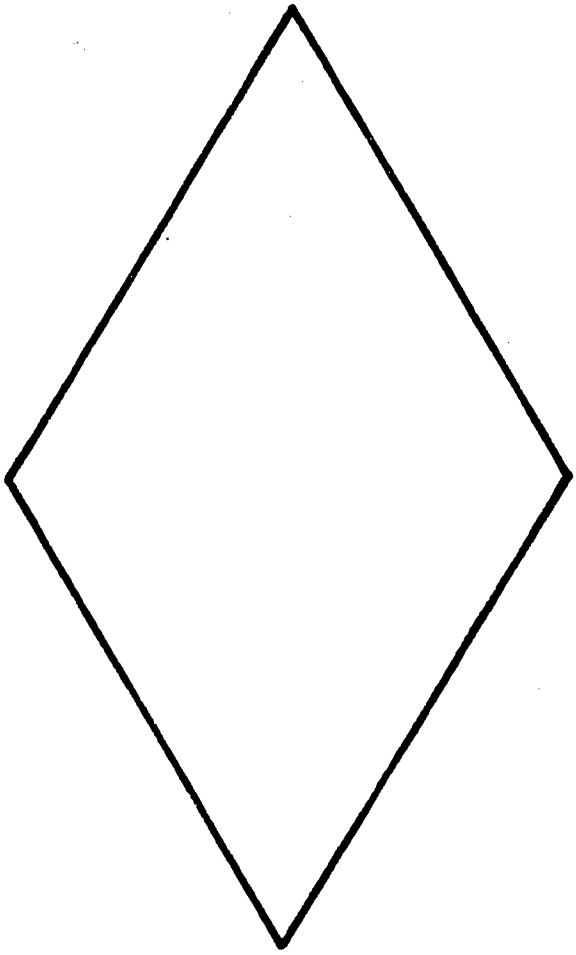

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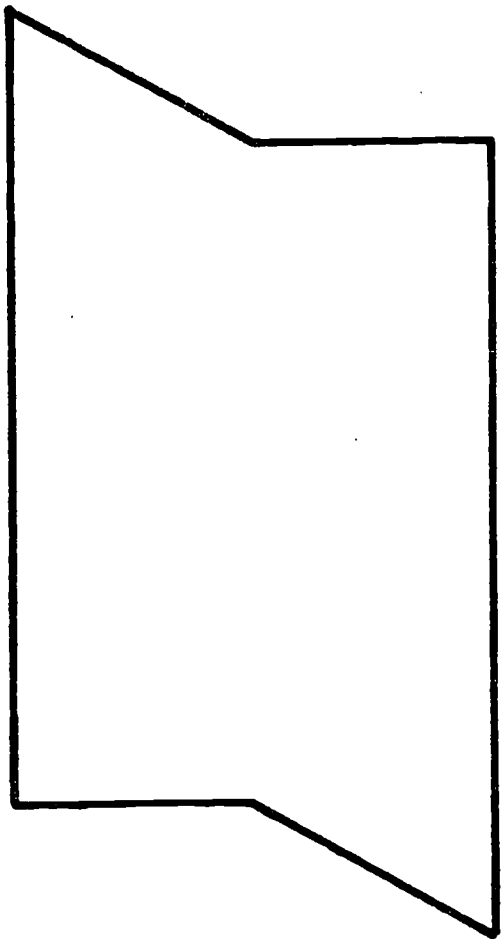

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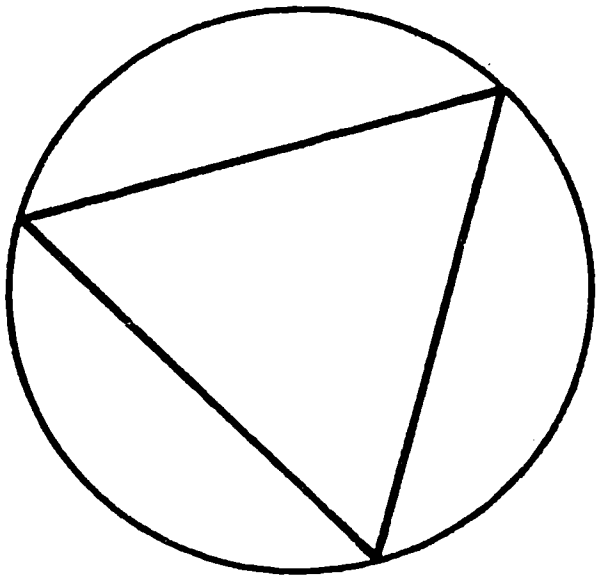

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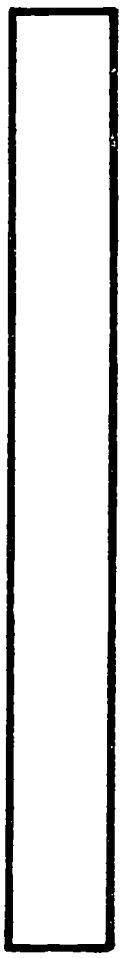

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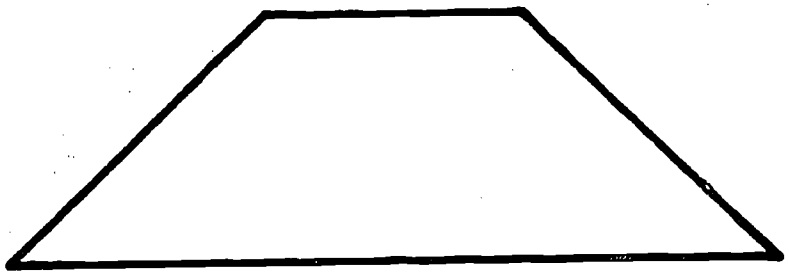

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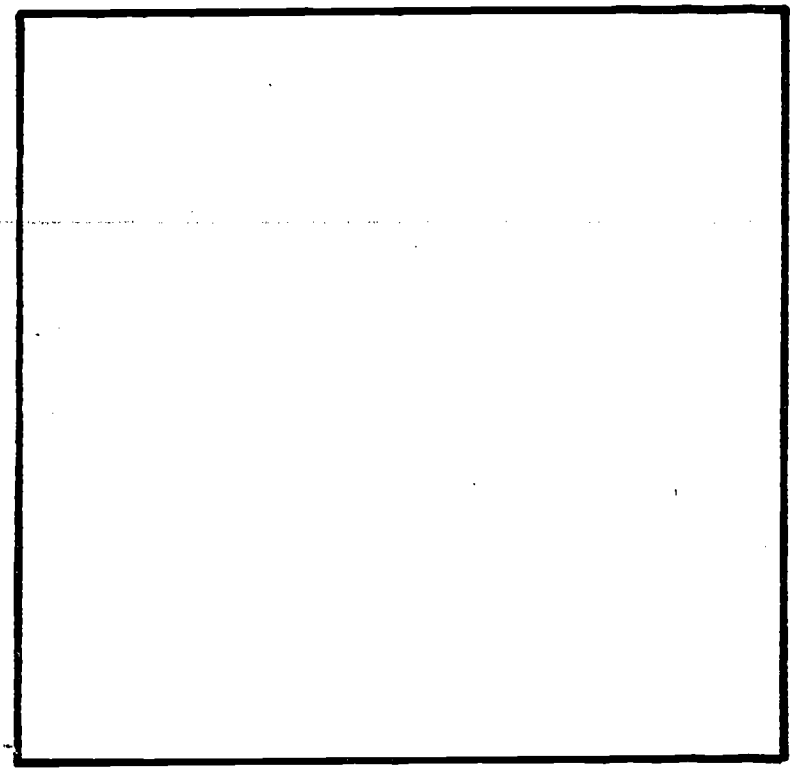

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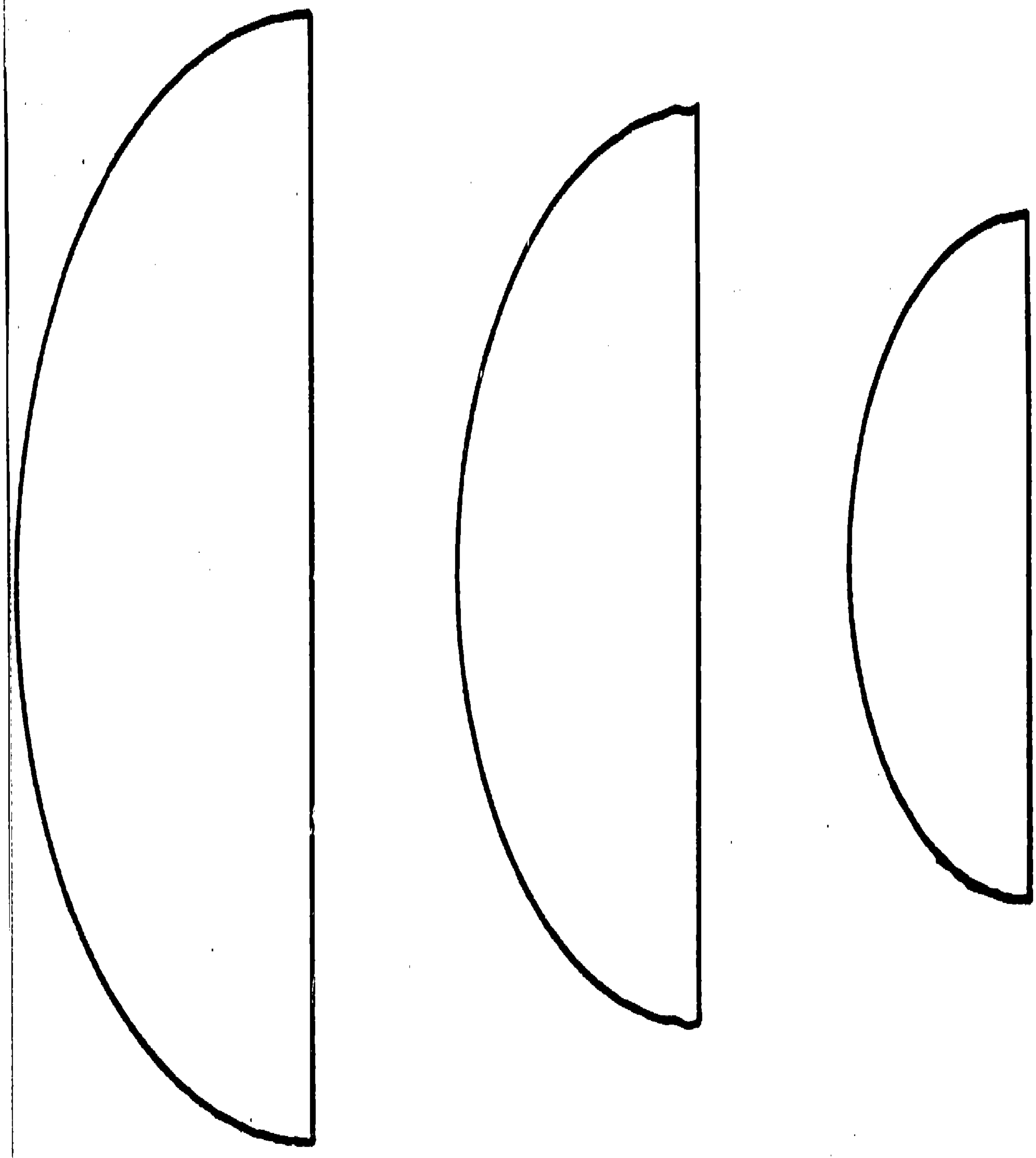

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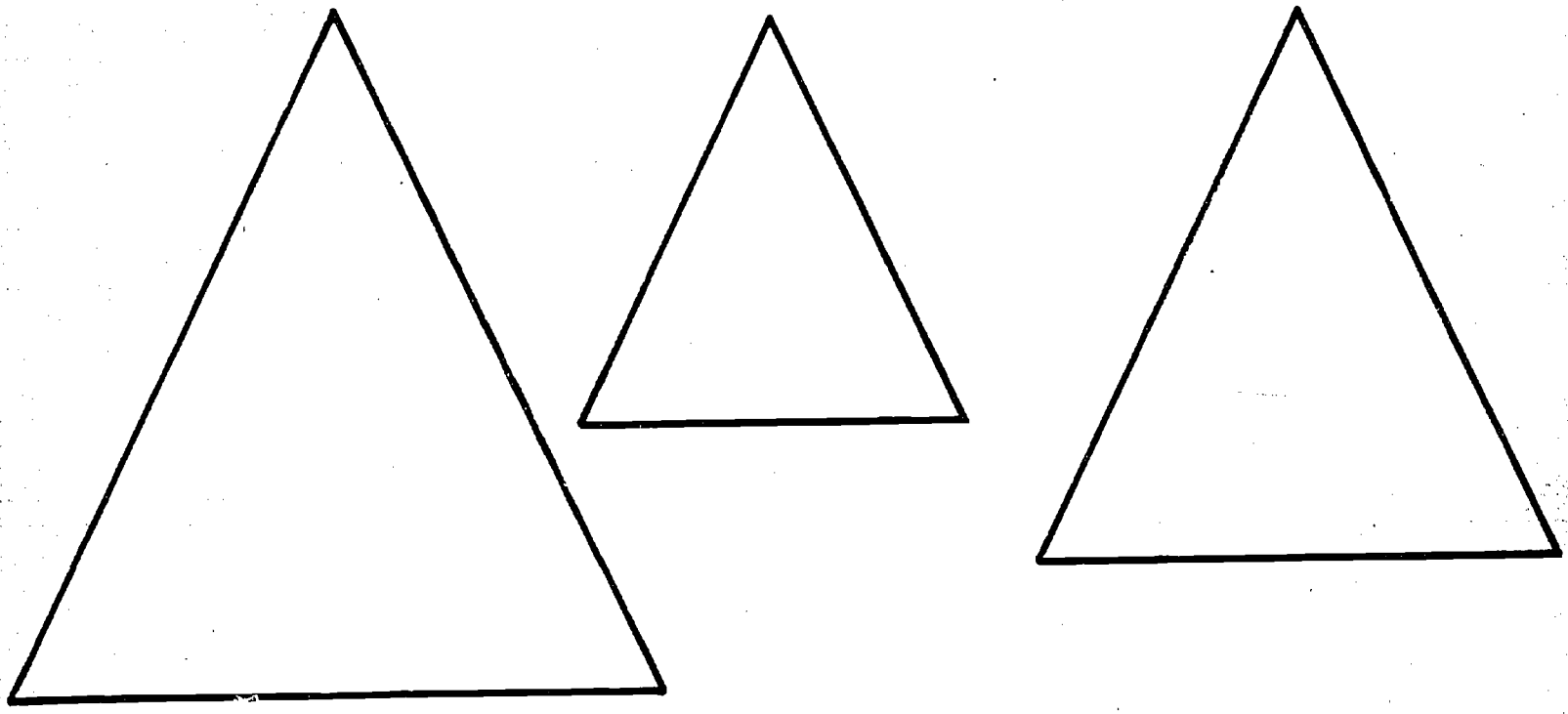

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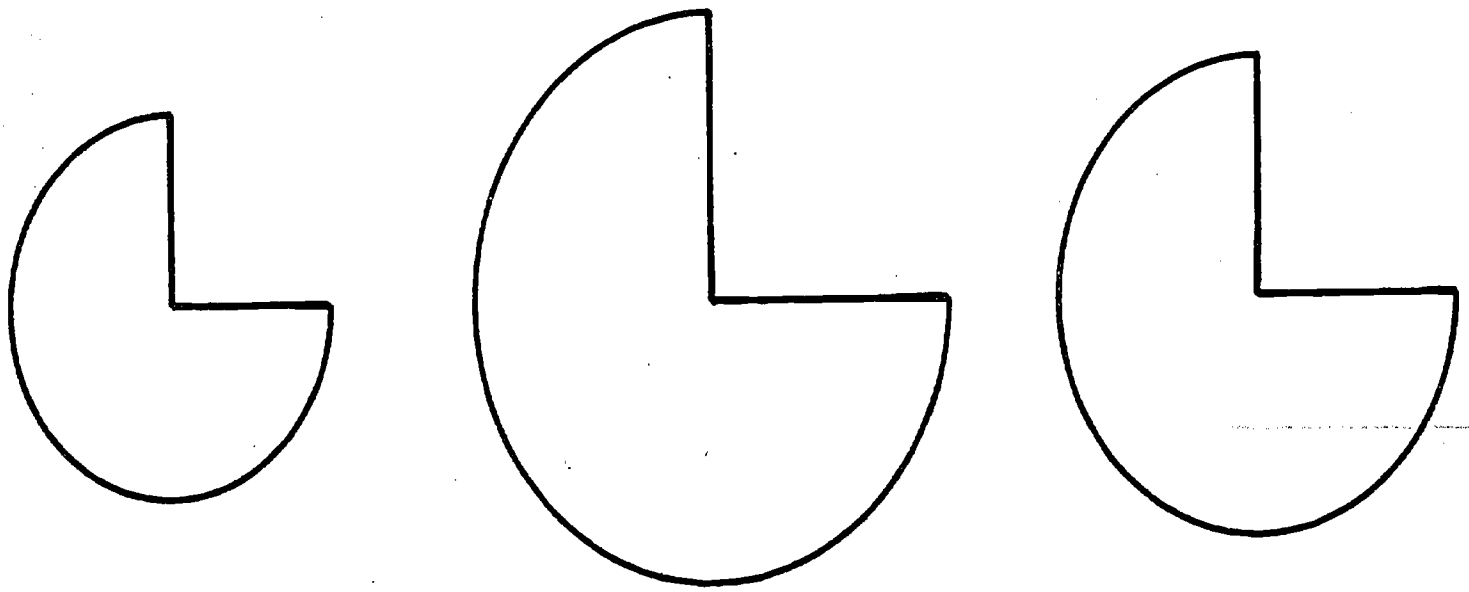

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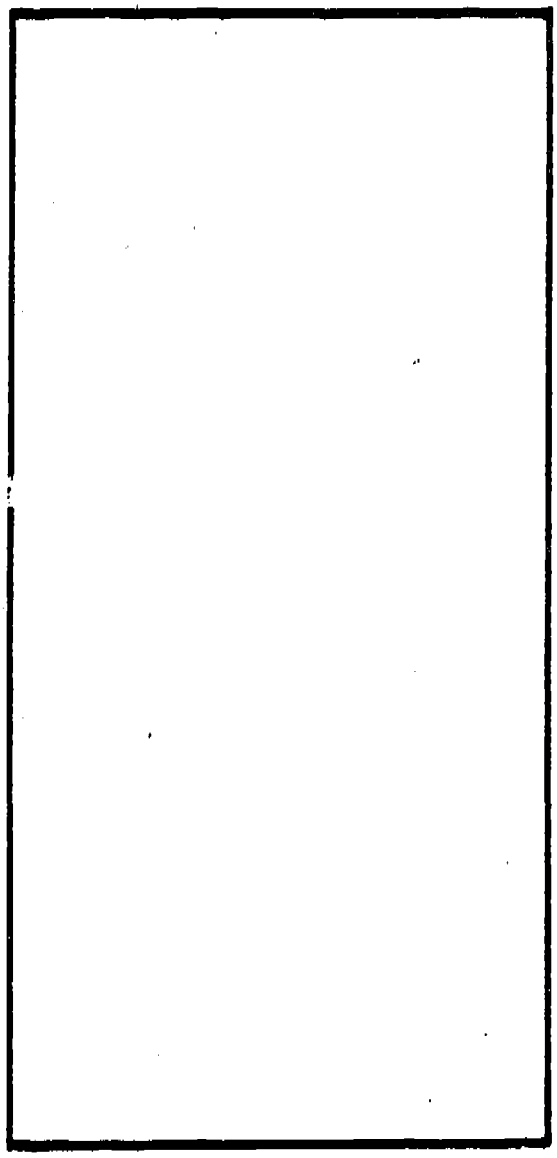

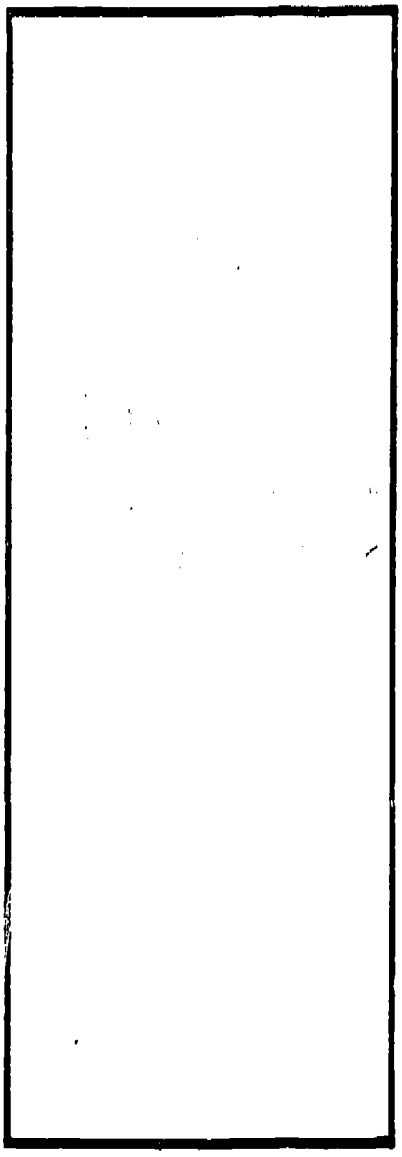

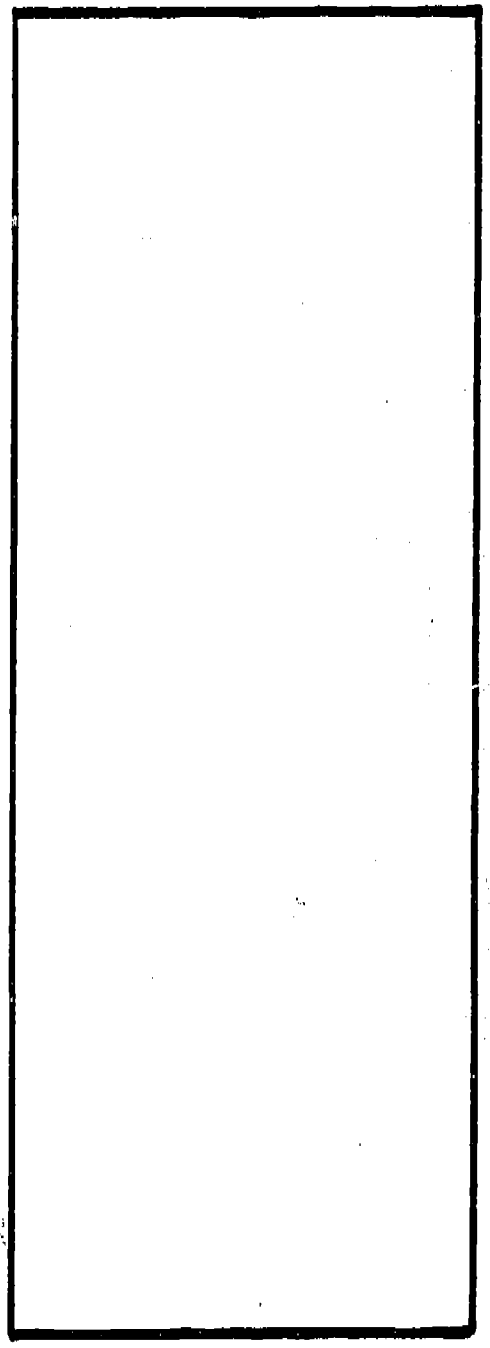

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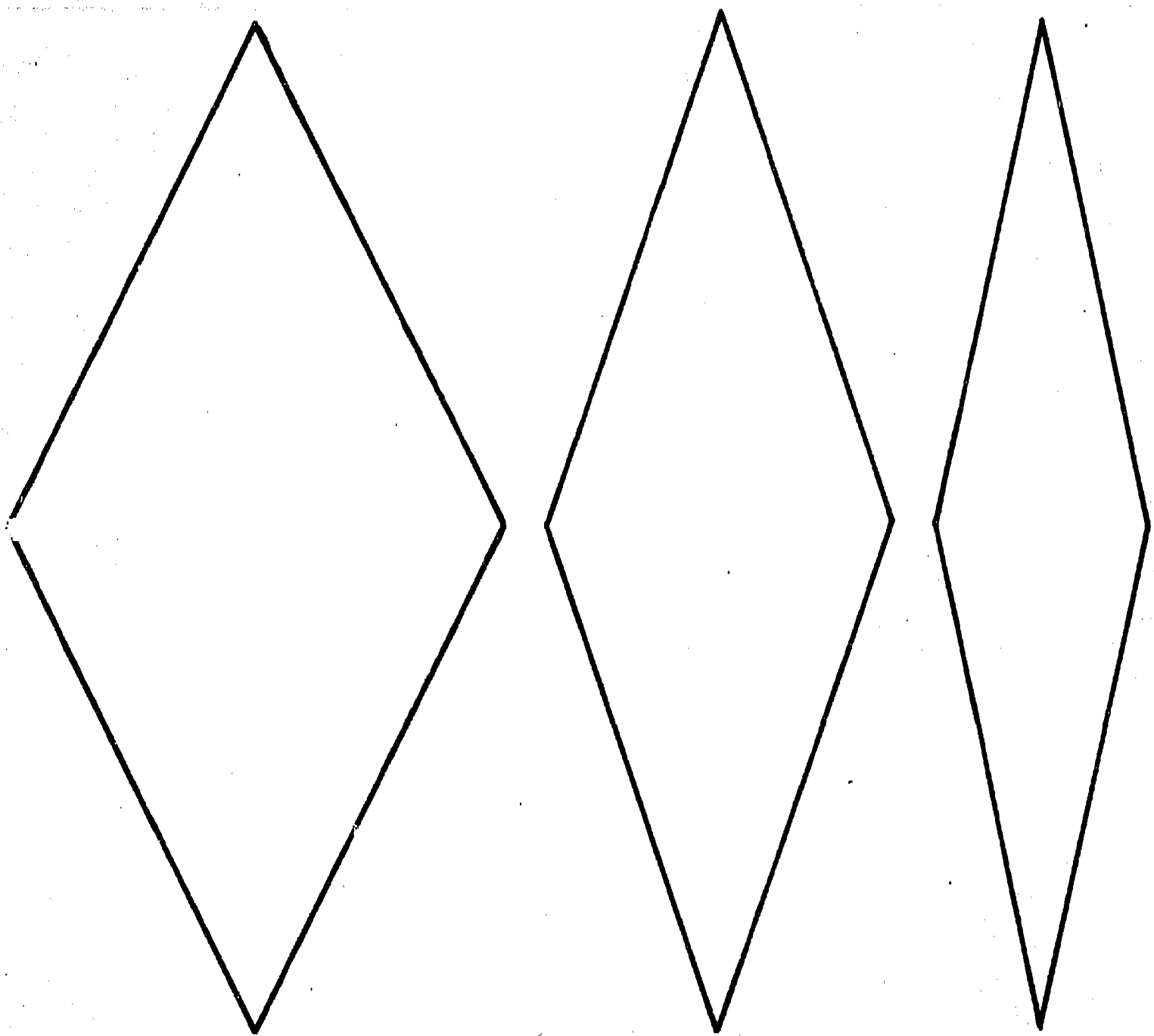

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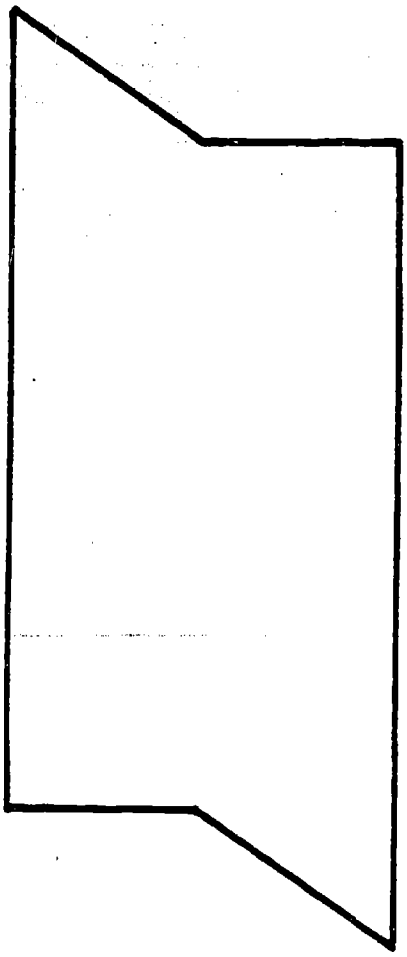

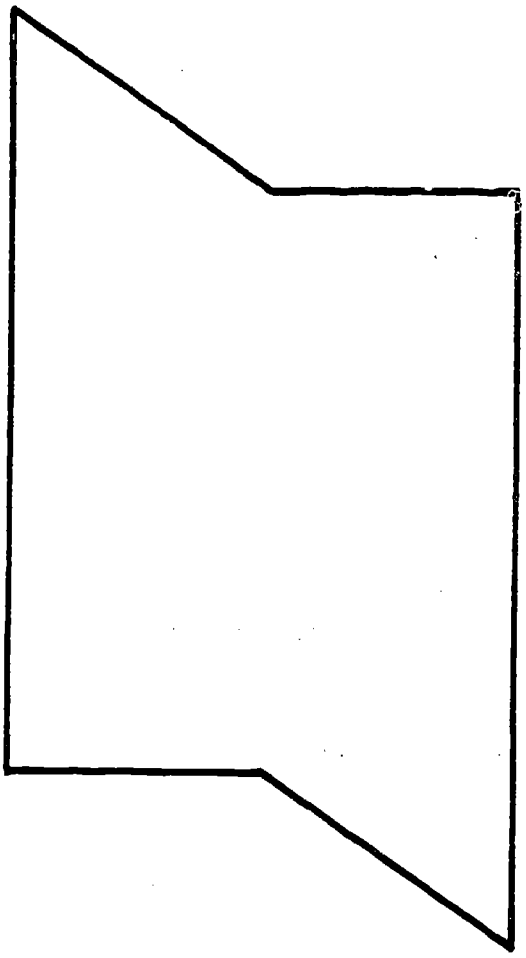

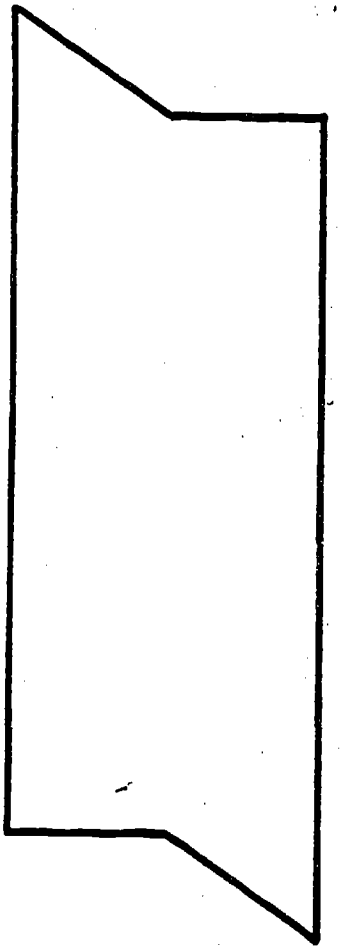

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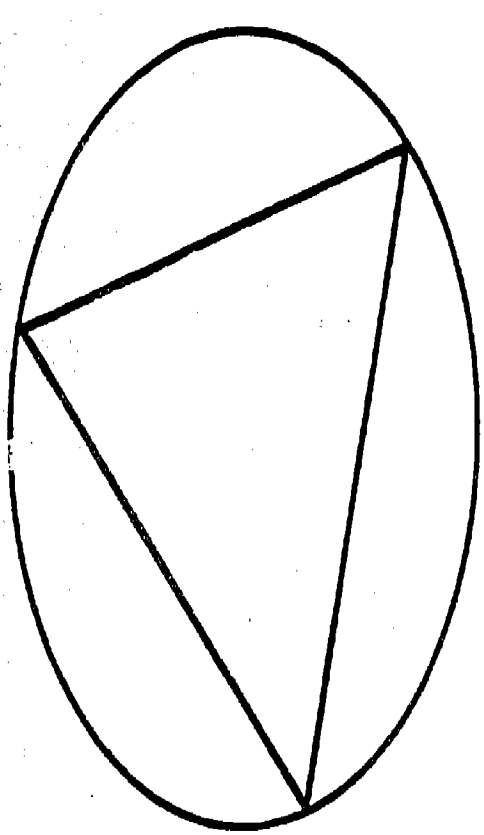

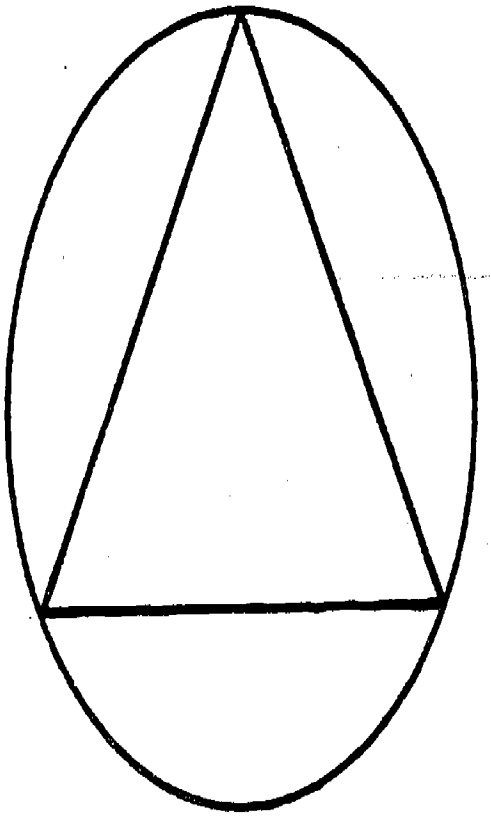

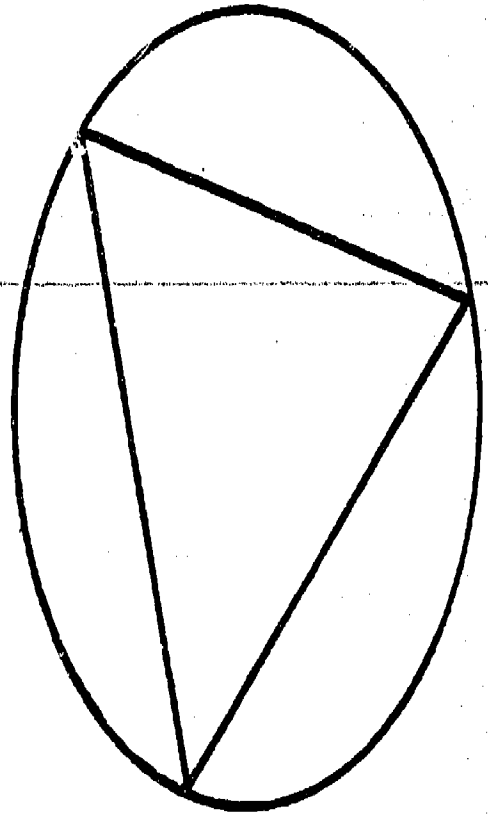

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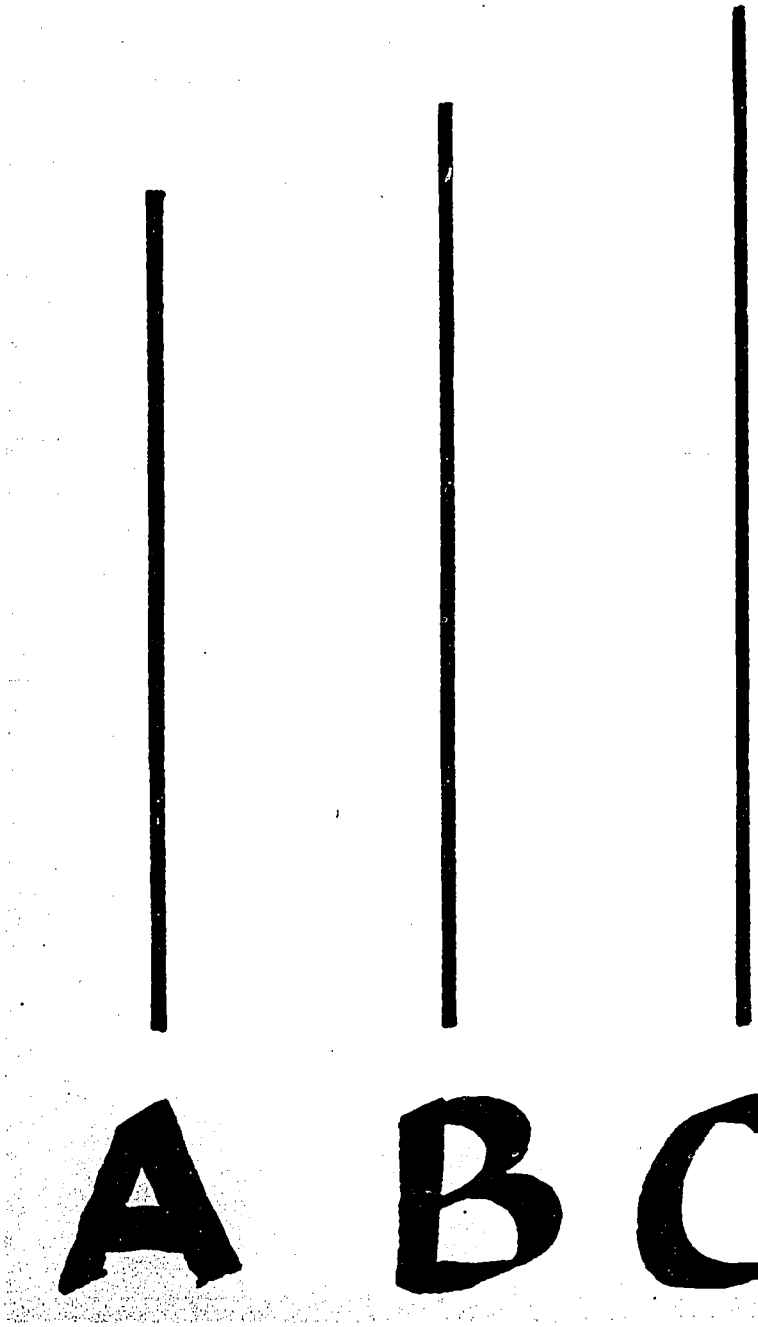

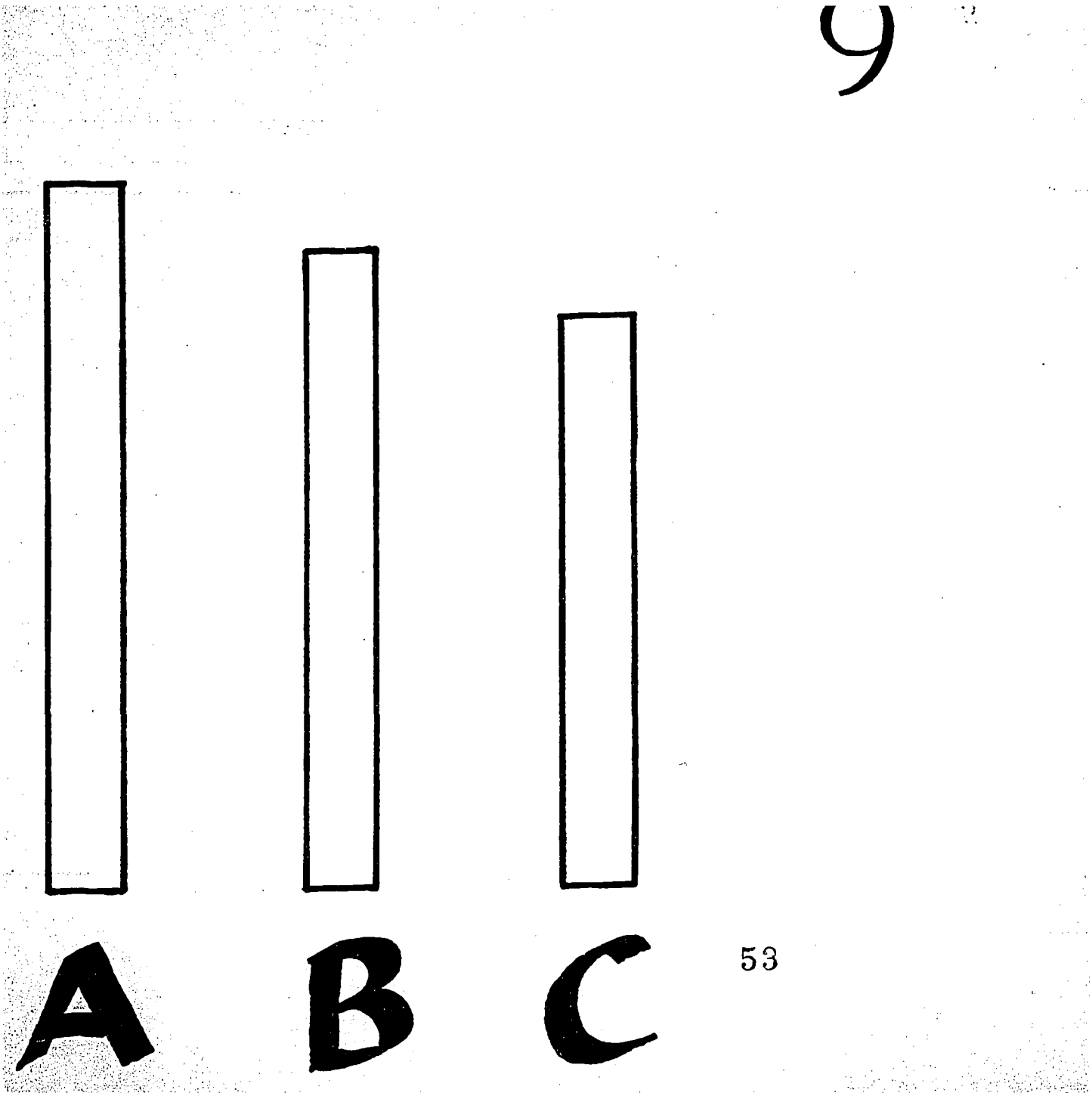
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A
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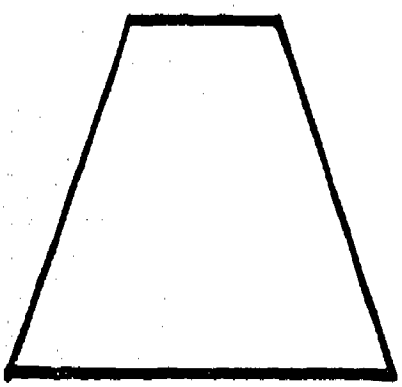
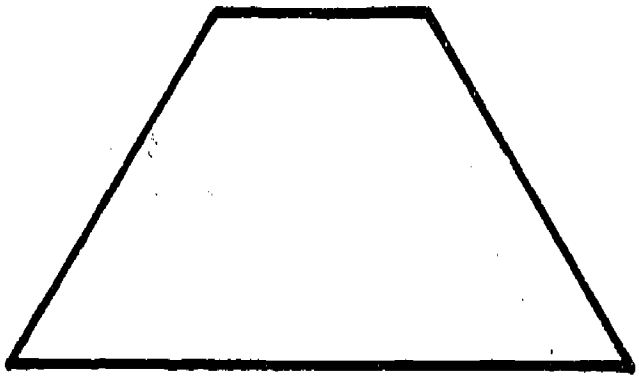
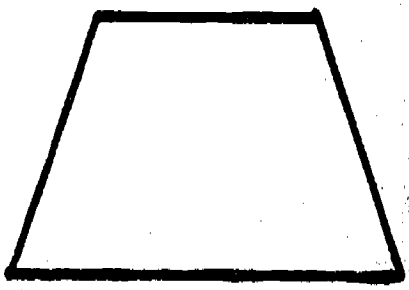
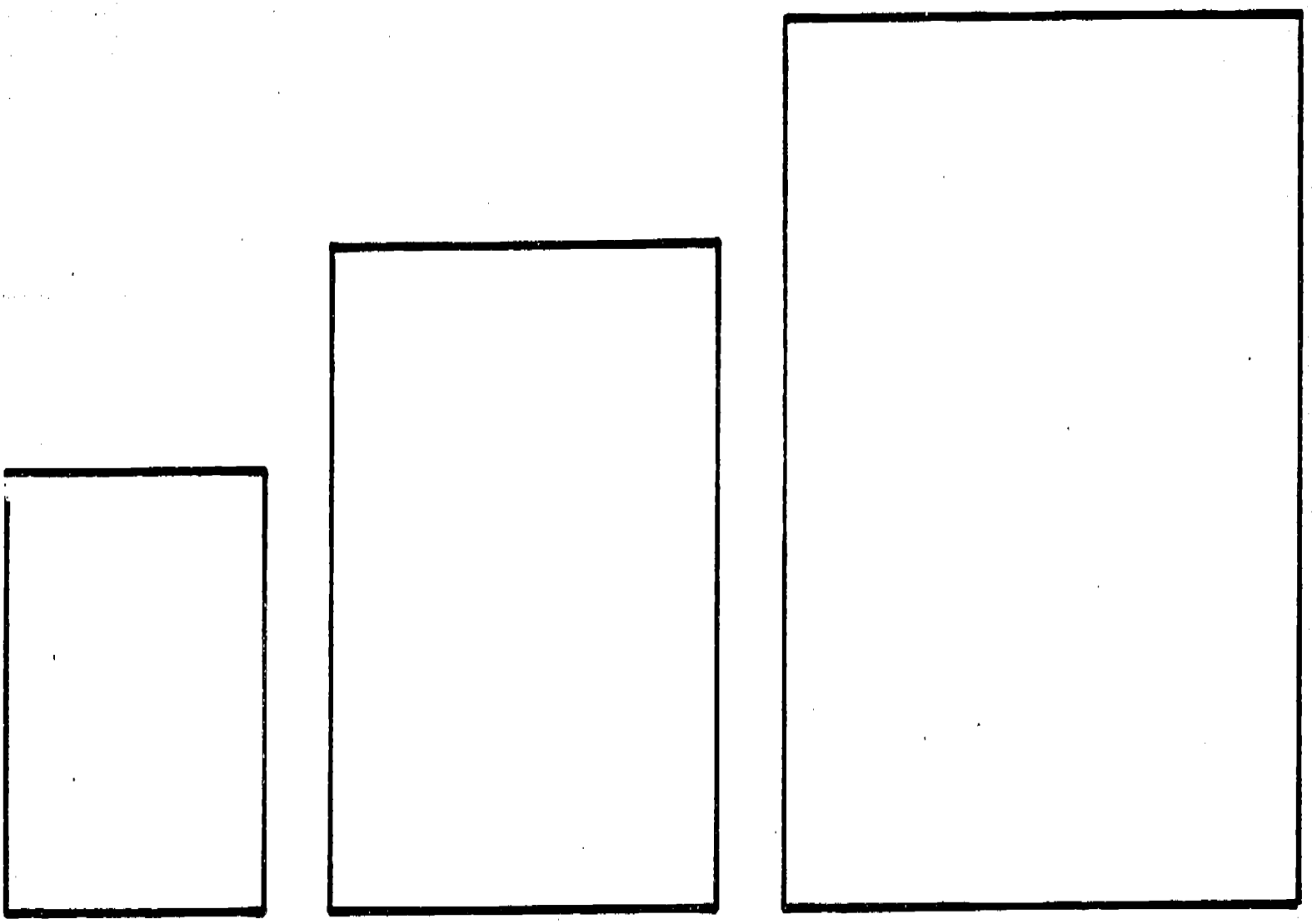






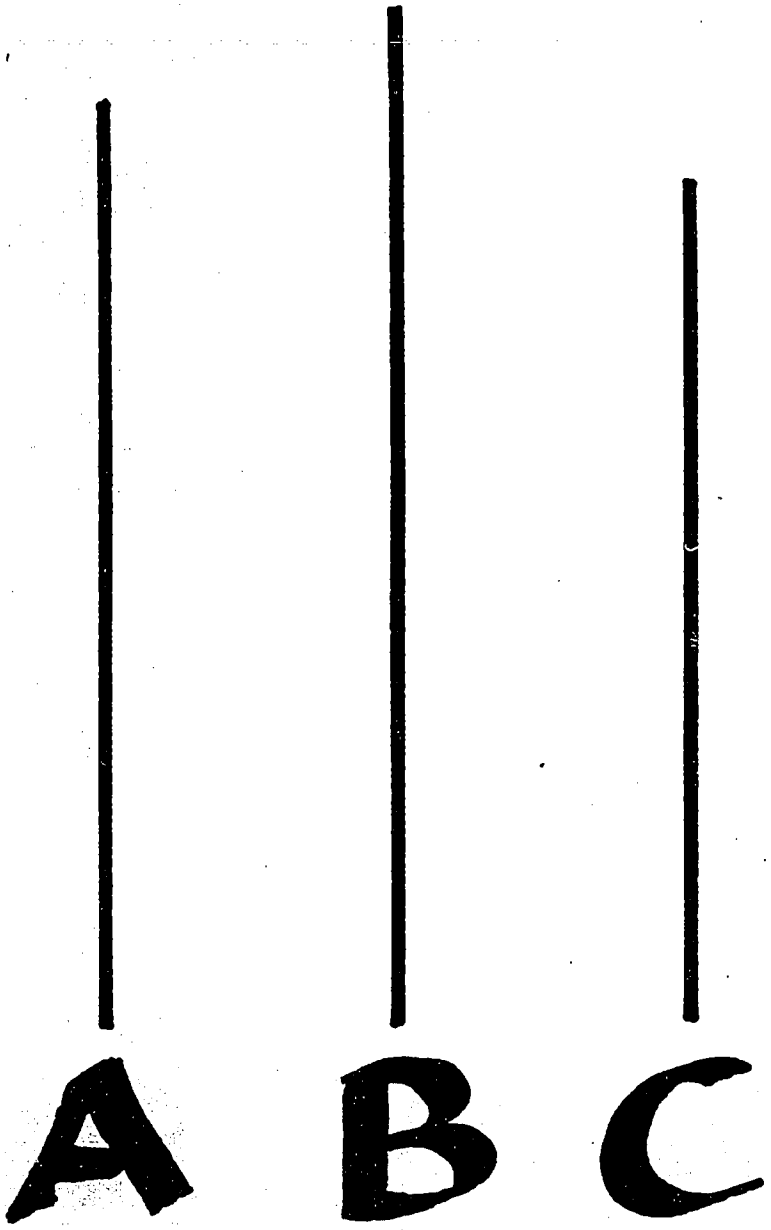
A B C

11



A B C

12



MASTER: INSTRUCTIONS FOR EXPERIMENTER

Your job is a complicated one. You will be conducting an experiment which is supposedly about perception but which is actually about the influence of a group on an individual.

Your instructor will announce the experiment and "select" the participants. You and your instructor will then ask the students to be seated in the seven chairs facing the class. It is important that the critical subject (the one who does not know what is happening) be in the sixth chair. When the subjects are seated, distribute the sheets entitled "Instructions for Subjects" to each subject. ONE OF THE SHEETS HAS TWELVE ANSWERS PRINTED IN THE UPPER RIGHT-HAND CORNER. BE ABSOLUTELY CERTAIN THAT THE PERSON IN LEFT-HAND (FIRST) CHAIR RECEIVES THIS SHEET AND THAT THE SIXTH PERSON DOES NOT SEE THAT THERE IS ANY DIFFERENCE AMONG THE SHEETS.

Tell the participants to read the instructions. Then answer any questions they may have. When they all seem to understand, you may begin. (The sixth subject will probably have more questions because this experiment is new to that subject; try <u>not</u> to talk more with that subject than the others.)

Begin by holding up the two cards with the number 1 in the upper right-hand corner and semicircular figures on them. Ask the participants to respond one at a time, beginning with the student in the first chair. Look at the first participant and wait for him or her to say, "B." Then look at the second participant, the third, and so on down the line. If subjects talk with each other remind them they are not to discuss their answers. When all participants have given their responses continue with the second pair of cards and follow the same procedures.

The sixth subject may have trouble making up his or her mind. If he or she is taking excessive time, state that you need an answer and that a choice must be made.

When the participants have been through all twelve pair of cards, tell them that the experiment is completed and that you will be discussing the results later. Tell them to turn their instruction sheets face down and resume their seats. Then ask the instructor to select seven more students to participate in a second round of the same experiment. Proceed as you did with the first round. Don't forget to get the tally sheet from the recorder after each experiment.

When the second round is completed, you should look over the sheets given you by the recorder. The last three columns on each sheet are all that matter. Those spaces with an asterisk (*) in them indicate pairs of cards for which six students gave the same incorrect response. You can easily see how the critical subject did. Figure the number of times he or she gave a <u>correct</u> response when the rest of the group gave the same <u>incorrect</u> response; the critical subject may have done this as many as seven times.

MASTER: INSTRUCTIONS FOR INTERVIEWER

After looking over the recorder's two sheets and marking them any way you wish, ask the two persons who were the unaware subjects to return to the front of the room. Of course, you'll have to look over the tally sheets and decide exactly how you want to begin. If both critical subjects gave all right answers, begin by saying something like, "I've looked over the responses, and each of you got all twelve right. But in seven card sets you disagreed with everyone else. Were you bothered by that?" If one of the subjects did give incorrect responses (went along with the group), your opening question could be something like, "I see that you made some of the same errors everyone else did, but I thought during the experiment that you weren't very sure of your answers. How do you account for that?"

Let the two subjects tell about their reactions for awhile, and try to get them to tell about how they felt when the others gave what seemed to be wrong answers. When you think you are at a comfortable point with the two participants, apologize to them and break the news that they were being deceived. You can say something like, "I really was uncomfortable myself knowing you were the only ones being deceived, but I really wanted to know how you would react. Lots of people have gone through the same thing and were just as uncomfortable as you. I'd like to get your reactions now that you understand the true purpose of the experiment--to see whether a minority of one will stand up against group judgments."

Your questions from now on will depend on how the subjects behaved during the experiment, and the two subjects may not have behaved in the same way; you may have to ask different questions of the two subjects. Some questions you can use, depending on how the subjects behaved, are indicated below.

"Tell me how you felt when the experiment was about to begin. Were you nervous or concerned about what your answers would be?"

"Remember the third pair of cards, when everyone ahead of you gave the same wrong answer? How did you feel then?"

"What were you thinking when you decided to give a different answer from the others? What did you think when the next person still gave what you thought was a wrong answer?"

What were you thinking when you gave the same answer as the others? Did you think you were seeing right but going along with the group, or did you really think the group must be right and you weren't seeing things so well today?"

"Did you ever want to give a different answer than the one you finally settled on?"

"Sometimes you agreed with the group even though they were giving the wrong answer, but sometimes you didn't. Why did you switch around?"

"Did you ever wish that the experiment were over, that you could quit?"

Now that you know what was going on, what are your reactions? Is there anything you want to say about the experiment in general?"

You'll have a good idea of when the interview is at a stopping place. Your instructor will want some time to discuss the experiment with the whole class and to assign a reading about how the experiment has worked with other groups.

MASTER: INSTRUCTIONS FOR SUBJECTS

This is an experiment in perception. You will be asked to look at a pair of cards, which the experimenter will hold in front of you. The first card in each pair will have a figure on it--a triangle, a square, a circle with a figure in it, etc. The second card will have three similar figures on it. Your task is to decide which of those three figures most closely resembles in size and configuration the figure on the first card. One of the three figures on the second card will be exactly like the single figure on the first card.

There are seven of you participating in this experiment. You are not to discuss with each other the answer you think is correct. The first person in the row of seven will respond aloud first, then the second, and so on until all seven of you have announced your selections of the figure on the second card that most closely resembles in size and configuration the figure on the first card. This process will be repeated twelve times with twelve different pairs of cards.

Announce your selection from among the three figures on the second card by saying aloud the letter under it. That letter will be A or B or C. The recorder will write the responses each person gives on the Tally Sheet. When the experiment has been completed twice (when two groups of seven students have been through all twelve cards), participants will discuss the results obtained by the recorder.

1 = B	7 = B
2 = A	8 = C
3 = A	9 = B
4 = B	10 = C
5 = B	11 = C
6 = C	12 = A

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First Experiment_____

Second Experiment_____

MASTER: TALLY SHEET

INSTRUCTIONS FOR RECORDER: First check in the upper right-hand corner of this Tally Sheet whether this is the first or second experiment you are recording. During the experiment you will be recording the responses of seven students; each response will be a letter (A or B or C). The students are seated in front of the class. The student seated in the first chair on your left will be the first to respond; write his or her response in Column 1. Then you will move across the sheet from Column 1 through Column 7 as the students respond. This will be repeated twelve times. When the experiment is completed, copy the responses of the sixth student in the last column on this sheet and hand it to the experimenter. (* = trials in which six students gave the same incorrect response.)

CARD NUMBER	STUDENT NUMBER 1	2	3	4	5	6	7	CORRECT RESPONSE	MAJORITY RESPONSE	RESPONSE OF SIXTH STUDENT
1								B	B	
2								A	A	
3*								B	A	*
4*								C	B	*
5								B	B	
6*								A	C	*
7*								A	B	*
8								C	C	
9*								A	B	*
10*								B	C	*
11								C	C	
12*								B	A	*

MASTER: A MINORITY OF ONE

Your class has just seen an experiment in which one person was placed in the uncomfortable position of being a minority of one. Although the details were changed somewhat, this experiment is essentially the same as the original experiment designed by the social psychologist Solomon Asch several years ago. The same experiment has been conducted many times over the years, with much the same results.

RESULTS:

The responses of individual critical subjects (the persons placed in the position of a minority of one) show that only about 30% of critical subjects staunchly refuse to conform with the majority; about 70% of critical subjects conform with the majority at least once.

However, of all responses given by all critical subjects, far more than 30% are correct. In response to cards for which the majority gives the wrong answer, about 66% of all answers given by critical subjects are correct answers, and only about 33% of all answers given by critical subjects are wrong answers that conform to the majority view.

Since fewer than half the correct answers are accounted for by the staunch nonconformists, these results show that, on the average, even the "conformist" subjects gave more correct answers in opposition to the majority than incorrect answers in agreement with the majority. To paraphrase Abraham Lincoln, you can fool 70% of the people less than half the time.

Some variations of the experiment have been tried, and certain variations produce different results. For example, if just one of the accomplices (the subjects who are in on the experiment) is instructed to give the correct response to every pair of cards, the critical subject almost always gives the correct answer, too. A minority of two appears to be much stronger than a minority of one. But if the accomplice who has been giving right answers starts giving wrong answers, the critical subject usually starts giving wrong answers, too.

The size of the group involved has been varied from three to fifteen, but these variations have not produced significant changes in the results. No matter how small or large the group, about the same proportion of critical subjects tend to go along with the majority of the group.

WHY SUBJECTS RESPOND AS THEY DO:

Over the years, experimenters have asked many critical subjects, both conformists and nonconformists, why they responded as they did. Subjects have given a great variety of answers, and some of the answers most commonly given are described here.

Nonconformists: Many subjects who seldom or never conformed to the majority view said that they felt tempted to join the group, but trusted their own perceptions. They felt a strong desire to be with the majority, but they believed their own perceptions were correct. Many of these subjects were deeply disturbed during the experiment because, on the one hand, common sense told them the majority must be right; but, on the other hand, their eyes told them the majority was wrong.

Many other nonconforming subjects believed "common sense" instead of their eyes: they believed that the majority was right and they were wrong. But they reported what they saw--even though they believed it was wrong--because they had been instructed to report what they saw. These subjects typically were disturbed because they were not with the majority, but they reported what they saw anyway because the instructions required it.

Conformists: Many conforming subjects also believed "common sense" instead of their eyes: they believed that the majority was right and they were wrong.

They did not report what they saw, even though the instructions required it, because they did not want to make a public display of the fact that their vision was "defective." These people were in an uncomfortable position, not only because they believed they had defective vision, but also because they knew they were not following the instruction to report what they saw. Many justified their responses to themselves by saying that if they reported what they saw it would damage the experiment.

Another large group of conforming subjects seemed to be aware that what they saw was correct and that the majority was wrong, but they went along with the majority anyway, because they did not want to be different. These people, torn between the desire to believe their own eyes (and follow the instructions) and the desire to be with the majority, chose to go with the majority.

A small number of conforming subjects said that what they reported was actually what they saw. They apparently believed not only that the majority was right, but also that they saw what the majority saw.

LESSONS 7 through 10: SIGNIFICANT OTHERS

SYNOPSIS:

These four lessons begin with a discussion of the experiment just completed. Students are asked to speculate on who students like themselves feel are the important persons in their lives. They then develop a hypothesis and "test" it by administering a questionnaire to twelfth-grade students, tabulating the results and comparing the results with those of a similar study conducted by professional social scientists. The discussion of the activity introduces the concepts of reference group and significant other.

OBJECTIVES:

The student will define and give examples of a culture, subculture, reference group, norm, significant other and generalized other.

SUPPLIES:

Master: Who is Important in Your Life? (sufficient copies for use in survey)

Master: Questionnaire: Who is Important in Your Life? (sufficient copies for use in survey and tabulation)

Master: Worksheet on Questionnaire Results (one per student, for use in class)

STUDENT TEXT:

Comparing Your Data with the Results of an Earlier Study (homework reading after Lesson 9)

SUGGESTED TEACHING PROCEDURES:

A. Discussion of Inferences from the "Perception Experiment": Begin by asking students what the experiment tells them about the influence of others on their behavior. This is a review of a previous discussion, but this time you should steer it to the question of the influence of others on adolescents, specifically on twelfth-grade students. When appropriate in the discussion, ask the class to speculate on which types of people twelfth-grade students probably think are most important. Their response is unpredictable, but they will probably claim that peers are very important in their lives and that the opinion of their friends is a major influence on them. They may state this in several ways. For example, students may generalize that "twelfth-grade students will consider opinions of friends more important than opinions of parents." However, they might say the exact opposite, that parental opinions are most important.

[Read the Background Information section following these Suggested Teaching Procedures.]

B. Developing a Testable Hypothesis: Words like "more important" are not testable. Ask students how they can state their generalization (which at this point is a speculation) in such a form as to allow one to check on its accuracy. (The Background Information section provides information on the nature of hypotheses.) Students should arrive at a hypothesis which they can test with the data that will be generated in response to the questionnaire. An example of a hypothesis that can be used in this way is: "A greater percentage of twelfth-grade students will indicate peers as being important in their lives than will indicate parents as being important in their lives." The data students will collect can be used to test a number of hypotheses, and any hypothesis can be stated in a number of ways.

During this discussion it will become clear to students that they need certain kinds of data in order to test certain kinds of hypotheses. Tell them

that the data they will be using will result from the questionnaire they will administer. Distribute to each student one copy of each of the handouts, "Who is Important in Your Life?" and "Questionnaire: Who is Important in Your Life?" and continue discussing hypothesis formation.

[Read the three masters.]

There are good reasons for the form of the questionnaire. Use these in response to students' questions.

1. By using a form similar to one used in another study, students will be able to compare results of the two studies.

2. The number of categories is large because a respondent might name persons in any of these categories; the hypotheses students generate may not take advantage of data from all these categories, but there is no simpler way of allowing respondents to list "important persons" freely.

3. The questionnaire is probably unlike any the students have seen. Respondents are not asked to name the single person most important in their lives--they can list as many important persons as they wish, in as many categories as they wish. This means that more than one category may receive a large percentage response from the respondents as a group.

4. Sex identity is included as a variable (as it was in the original study). The data can therefore be used to test hypotheses about differences between males' and females' responses.

5. Grade-level identity is included so that all responses from lower-grade students can be rejected. Students should allow all respondents in a class (under the second option below) to complete the questionnaire, but they should tally only the responses of twelfth-grade respondents.

Because of the unusual nature of the questionnaire, students may have difficulty understanding how it is to be completed. It is essential that they be able to explain it to others. If necessary, go over the entire procedure, even to the point of filling in fictitious names.

C. Planning Administration of the Questionnaire: There are three options you may select. First and best is a random sample. Because students have already completed a survey (Unit III, Lesson 24) they are aware that they can have greater confidence in their results if they use a random sample. However, use of a random sample requires a great deal of time to locate and meet with each member of the sample. Review Unit III, Lesson 24, if your class intends to draw a random sample. The second option is to select classes in which the questionnaire can be administered, much as students may have done in Unit III. You will need to arrange for this in advance. If you do this, tomorrow will be spend going to those classes and collecting data. The third option is for students to do exactly what they have been cautioned against: selecting "the man on the street." They can simply give the questionnaire to as many twelfth-graders as they can locate. This is an unscientific sampling procedure, and if the students plan to apply tests of significance in Biomedical Mathematics they will be unable to do so with such a "sample." However, for this topic, such a procedure has the advantage of saving time and encouraging a sense of immediate involvement on the part of your students. If the two previous options are impossible, this will be a less desirable substitute.

D. Administering the Questionnaire and Tabulating Responses: If you select the third option, the administering of the questionnaire will be a homework assignment after the first lesson of this four-lesson sequence, and the tabulation of data will take place during the second lesson. If you select either the first or the second option, both the administering of the questionnaire and the tabulation of data must be done by the third lesson. Students may need two nights to contact their respondents.

To tabulate, divide the class into groups of five or more students each. Each group should have one person to read responses and at least four persons to record them. Divide the completed questionnaires equally among the groups. No worksheet is provided because tabulation is simple; the recorders can use blank questionnaires for tallying.

Give the following instructions.

1. One member of each group will read responses and the other four (or more) will record them.

2. Two (or more) recorders in each group should circle FEMALE on their blank questionnaires and the other two (or more) should circle MALE on their blank questionnaires.

3. When the reader picks up a new questionnaire, he should first look at the grade level and the sex identification the respondent has marked. If the respondent is not a twelfth-grade student, discard the questionnaire; it will not be tabulated. If the respondent is female, say "female;" those recorders who circled FEMALE on their tally sheets will record the data and the others will wait. If the respondent is male, say "male;" the recorders who circled MALE on their tally sheets will record the data and the others will wait.

4. The reader should then read aloud all the letters that are circled, and the recorders who are recording the questionnaire should place a tally mark to the right of each letter the reader calls out.

5. When the reader has called out all the circled letters he should say, "Tally the questionnaire." The recorders who are recording the questionnaire should make one tally mark at the bottom of their tally sheets. When the group has finished its pile of questionnaires, these tallies at the bottom of the tally sheets will give the total number of female and male respondents whose questionnaires the group has tallied.

6. When the group has finished tallying its pile, the "MALE" recorders should cross-check to see that all their totals agree, and the "FEMALE" recorders should cross-check to see that all theirs agree. If there are any disagreements, the group should retally its entire pile.

7. When all recorders agree, the group should take two blank questionnaires and circle FEMALE on one and MALE on the other. On the one with FEMALE circled, write the total number of tallies from the "FEMALE" tally sheets next to each letter (use numerals, don't reproduce the tally marks), and at the bottom write the total number of female respondents. Similarly record all the totals from the "MALE" tally sheets on the blank sheet with MALE circled at the top.

During the tallying some groups may come across questionnaires with remarks they cannot interpret. If there is any question, simply do not tally any response for a category with an unclear mark (but do tally the rest of the questionnaire).

When all groups have finished, record the grand totals on two blank questionnaires, one for female respondents and one for male respondents.

If there is time remaining you can convert the totals to percentages today. Students can also do this if you wish, allowing cross-checking of results. Divide the total number of female respondents into the number next to each letter on the "FEMALE" grand total sheet, and write the resulting percentage next to the number. (The percentages will add up to more than 100% because each respondent can circle more than one letter.) Similarly, divide the total number of male respondents into the number next to each letter on the "MALE" grand total sheet, and write the resulting percentage next to the number.

When this has been done, distribute the worksheet, "Questionnaire Results," and ask the students to complete it. First complete the item at the bottom, "Number

of Respondents," by reading off the total number of respondents of each sex and letting the students fill in the blanks. Then read the percentages for each category, first from the "FEMALE" percentage sheet and then from the "MALE" percentage sheet.

Note: Students will surely ask about the numbers already recorded on the worksheet. Tell them these will be explained in the reading assignment. Note also that, if random sampling was used, the survey results can be subjected to a chi-square test of significance. Your colleague in Biomedical Mathematics may want to use the Supplementary Mathematics lesson provided for this purpose. If so, tell students to save their results for use in the Mathematics class.

[Read "Comparing Your Data with the Results of an Earlier Study."]

E. Assignment: In preparation for Lesson 10, assign the reading, "Comparing Your Data with the Results of an Earlier Study," in the Student Text.

F. Discussion of the Assignment: The discussion of the assignment and the questions following it can consume an entire class period. There is one additional question that ought to be raised: Would similar results be obtained if the survey were conducted among people who have been out of school for a while? The answer is probably no. The degree of similarity would depend to some extent on the age level of the respondents. For example, respondents who had recently been in school might still list teachers and other persons associated with school as important in their lives, but respondents who had been out of school for some time would be less likely to list such persons as being important in their lives. Among these respondents' significant others would probably be employers, spouses and fellow workers. The point is that a person may have many significant others, and who they will be depends to some extent on the person's position in life.

G. Discussion for the Fourth Lesson: This discussion is a continuation from the third lesson; you may begin it whenever appropriate. The suggested questions can be used as a written assignment after the third day, and you can use group discussion if full-class discussion is less useful at this point. There are two major areas of discussion to be included: implications of the survey results and of Coleman's conclusions, and possible results of the survey if generalized others had been used rather than the singular significant other.

Ask students whether Coleman's conclusion (that adolescents have a subculture) is, in their opinion, accurate. They should be able to cite reasons on both sides; teenagers do value the opinions of other teenagers, yet they also identify parents and other adults as important in their lives. Part of this discussion may be on a personal level. Students already know that they can respond to the question, "Who influences my behavior?" in a variety of ways. A conclusion that should emerge from the discussion is that "important" is a contextual word. Age-level friends may be "important" in such matters as dress or choice of slang expressions, perhaps even in decisions about post-graduation plans or vocational choice. But adults still exert influences on students, and their judgments about politics, to cite one example, seem to be "important" to students.

There is an interesting point of speculation that should be used to conclude the discussion. Ask if the use of generalized others would have generated different survey results. For example, if subjects had been given just the list of categories and asked to pick the most important categories of persons in their lives, would they have selected in the same way? It is possible that a specific peer, identified by name, may be considered a significant other while the generalized other "students I run around with" might not be considered significant. You can ask whether, when statements such as "They won't like it" are used, the user can identify specific persons in the category "they." This is not a clearly answerable question, but it will reinforce the idea that there are a number of sources of influence on the behavior of students as well as adults.

BACKGROUND INFORMATION:

There is not enough time to involve students in the process of hypothesis-formation and hypothesis-testing to the degree that would prepare them for rigorous research. Most students will never participate in such research, so the loss is not great. However, it will be necessary for you to assist students directly in forming useful hypotheses. The following is written to assist those teachers who lack a background in research; many social science teachers will not need this section for reference.

There are two essential conditions for an adequate hypothesis: it must be testable, and it must be plausible. Consider the second condition--plausibility--first. The word "hypothesis" is derived from "hypo," or "under," and "thesis." A hypothesis is "under the thesis." For example, a reasonable thesis is that persons emulate those with thom they are in frequent contact and whom they find useful in their lives. A hypothesis derived from this thesis is that students will identify parents as important in their lives. It is plausible in terms of the thesis from which it is derived.

The thesis may be inaccurate, but theses are usually the products of previous hypotheses and usually are accurate. The process is ongoing: when a hypothesis is shown to be true it becomes a thesis; when a thesis is questioned it becomes (at least for the questioner) a hypothesis.

In the example given above, there is considerable research to support the thesis. It stems from a number of topics other than student identification of significant others. As knowledge is built through the testing of specific hypotheses, a general thesis emerges. Now that general thesis is used to posit a new specific hypothesis about new specific subjects. Put differently, if we know generally that X is true in situation Y, then in this instance where a specific situation like Y occurs, X should again be true.

This means that as students suggest hypotheses and you work with them, you should be asking why they bother to suggest those particular hypotheses. What previous knowledge makes them think their hypotheses may be true? For example, the hypothesis, "Students will identify friends as important in their lives more often than they will identify parents," might be based on the knowledge that high-school students are very concerned about "what their friends think." Since your students do not have a rich social-science background it is very unlikely that they will be able to marshal social-science research evidence to support such a thesis. For this reason they will probably rely on "common sense" or everyday observations. For the purposes of this lesson these are acceptable sources of support. The point the students should understand is that a hypothesis is not a blank guess; it is an educated guess, or a speculation derived from a plausible base.

Stating a hypothesis so that it is testable means writing it so that it is specific and clear. A hypothesis stated unclearly is still a hypothesis, but it is of little use. Clearly stated hypotheses are those which have clear terms and which define without ambiguity the variables and their relationships. "Males will think parents are important" tells us almost nothing. "Male high-school students will indicate that parents are important in their lives more often than will female high-school students" clearly identifies the variables sex, age (approximately) and significant other.

Great specificity is needed for the term "more often." Later students will be able to use the phrase "to a significantly greater extent" but at this point it is inappropriate. "Significant" in this context simply means that the odds are heavily against its occurring by chance. To determine whether the results are attributable to chance, social scientists use tests of significance. This topic is covered in Biomedical Mathematics.

In addition to writing plausible and testable hypotheses, students should understand that hypotheses are meant to allow one to predict with some degree of accuracy. Therefore it is just as useful to reject a false hypothesis as it is

to confirm a true one. The idea of hypothesis-testing is to search for knowledge, rather than to prove a point. This is the difference between an argument or debate and a research process. In fact, social scientists usually test a null hypothesis, stating the exact opposite of what they expect, and try to prove it true. In this way they attempt to disprove their own real speculations; if they cannot, they accept the speculations as true until proven otherwise. The attitude that a hypothesis can be used as a means of discovering tentative truth, rather than as a means of "proving a point," is not easy to convey to students involved in discussing a topic, but it is worth the effort.

MASTER: WHO IS IMPORTANT IN YOUR LIFE?

THE BIOMEDICAL CLASS IS CONDUCTING A SURVEY. WE WANT TO KNOW WHICH PEOPLE STUDENTS IN THIS SCHOOL THINK ARE IMPORTANT IN THEIR LIVES. BECAUSE THIS IS A PERSONAL QUESTION WE HAVE DIVIDED THIS QUESTIONNAIRE IN TWO PARTS SO THAT YOUR RESPONSES (YOUR NAME AND THE NAMES OF PERSONS YOU THINK ARE IMPORTANT IN YOUR LIFE) WILL NOT BE RECORDED. YOU ARE NOT ASKED TO TURN IN A LIST OF NAMES. YOU ARE ASKED TO LIST NAMES ON THIS SHEET AND THEN USE THIS SHEET TO COMPLETE ANOTHER SHEET YOU WILL RECEIVE. YOU MAY THEN DESTROY THIS SHEET. BECAUSE YOUR PERSONAL RESPONSES WILL NEVER BE SEEN BY ANYONE ELSE WE HOPE YOU WILL RESPOND WITH COMPLETE HONESTY.

IN THE SPACE BELOW WRITE THE NAMES OF PEOPLE WHO YOU FEEL ARE IMPORTANT IN YOUR LIFE. WHEN YOU FINISH YOU WILL RECEIVE A SECOND SHEET.

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

MASTER: QUESTIONNAIRE: WHO IS IMPORTANT IN YOUR LIFE?

1. CIRCLE THOSE ITEMS THAT IDENTIFY YOUR GRADE LEVEL AND SEX:

FEMALE OR MALE TWELFTH GRADE OR OTHER GRADE

2. BELOW ARE LISTED NINE CATEGORIES OF PEOPLE. USE THE NAMES YOU LISTED ON THE FIRST SHEET TO COMPLETE THIS QUESTIONNAIRE. LOOK AT EACH NAME YOU LISTED AND DETERMINE IN WHICH CATEGORY YOU THINK IT BELONGS. CIRCLE THE LETTER IN FRONT OF THAT CATEGORY. YOUR LIST MIGHT NOT INCLUDE PEOPLE IN EVERY CATEGORY; IT IS NOT EXPECTED THAT EVERY CATEGORY WILL BE CIRCLED. YOU MAY HAVE MORE THAN ONE NAME PER CATEGORY BUT YOU SHOULD CIRCLE THE CATEGORY LETTER ONLY ONCE. (WE ARE INTERESTED IN WHICH CATEGORIES ARE CIRCLED BUT NOT IN THE NUMBER OF PEOPLE IN EACH CATEGORY.) PLEASE TURN IN THIS SHEET WHEN YOU HAVE COMPLETED IT.

LETTER (CIRCLE)	CATEGORY
A	PARENTS
B	AGE-LEVEL RELATIVES (BROTHERS, SISTERS, COUSINS, ETC.: PEOPLE WHOM YOU CONSIDER TO BE OF YOUR OWN GENERATION)
C	ADULT RELATIVES (PARENTS, AUNTS, UNCLES, ETC.: PEOPLE WHOM YOU CONSIDER TO BE AT LEAST ONE GENERATION OLDER THAN YOU)
D	PERSONS OF THE SAME SEX AND APPROXIMATE AGE GROUP AS YOURSELF WHO ARE NOT RELATIVES
E	PERSONS OF THE OPPOSITE SEX BUT SAME APPROXIMATE AGE GROUP AS YOURSELF WHO ARE NOT RELATIVES
F	TEACHERS
G	OTHER ADULTS (WHO ARE NOT RELATIVES OR PERSONS ASSOCIATED WITH SCHOOL)
H	ADULTS (WHO ARE NOT RELATIVES BUT ARE ASSOCIATED WITH SCHOOL, SUCH AS COACHES AND COUNSELORS)
I	ANY OTHER PERSONS (WHO DO NOT FIT ANY OF THE ABOVE CATEGORIES)

MASTER: WORKSHEET ON QUESTIONNAIRE RESULTS

CATEGORY	PERCENTAGE OF 12th GRADE STUDENTS WHO NAMED A PERSON IN THIS CATEGORY					
	Class Survey		1966 Survey			
	"General Significant Others"		"General Significant Others"		"Academic Significant Others"	
	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE
Parents			98	93	97	96
Age Level Relatives			75	57	45	29
Adult Relatives			52	31	31	27
Same Age Group: Same Sex			53	27	39	11
Same Age Group: Opposite Sex			25	26	16	21
Teachers			16	18	29	26
Adults Not Associated With School			16	24	19	10
Adults Associated With School			7	15	32	18
Other Persons			12	16	25	25

Number of Respondents

Female____ Male____

Number of Respondents

Female____ Male_____

LESSONS 11 through 15: SOCIAL NORMS

These lessons carry on the theme of Unit IV--"What influences human behavior?"--but they shift the focus of attention from the behavior of the individual to the relationship between the individual and society. An important aspect of this relationship is the interaction of the personal values held by individuals and the social norms reinforced by society. The first four lessons of this sequence introduce the concept of social norms and help students to distinguish between social norms and personal values. The fifth lesson focuses on the potential for conflict between an individual's personal values and his society's social norms.

LESSON 11: INTRODUCTION TO SOCIAL NORMS

SYNOPSIS:

During the first part of this lesson students experience a situation in which there is a lack of social norms: they do not know what to expect or what is expected of them. The remainder of the class period is devoted to discussion of this situation. The homework reading defines social norms and related concepts.

OBJECTIVES:

The student will:

- describe a situation in which social norms are lacking.
- describe the social norms of the usual classroom situation.

STUDENT TEXT:

Social Norms and Sanctions (homework reading)

ADVANCE PREPARATIONS:

When students enter the room for this lesson they should encounter a situation which (1) does not look the way they expect the classroom to look and (2) does not indicate how they are expected to act. Disarrange the room as much as possible. Desks and chairs (including yours) should be so mixed up that no order can be perceived. You should dress in as unusual a manner as possible, and when students enter the room you should be doing something unexpected, such as playing solitaire or practicing putting.

SUGGESTED TEACHING PROCEDURES:

A. Illustrating a Lack of Norms: When students enter the room and see the unexpected situation you have created, they are sure to have questions. You should wait for students to initiate discussion; don't speak unless you are spoken to. If students ask direct questions about the situation in the room, redirect such questions to the askers.

Students confronting this situation are usually a little rowdy at first, but they soon become uneasy, anxious, or even hostile. Try to keep the situation going long enough to give the students something they can talk about afterward, but use your discretion in deciding when to stop it.

B. Discussion of the Lack of Norms: Most of the discussion should be devoted to students' descriptions of (1) what happened and (2) how the students felt about it. Students who reacted in unusual ways should be invited to

discuss their reactions, but not pressured to talk if they don't want to. Students should attempt to identify what it was about the situation that was really upsetting to them. This part of the discussion should result in what amounts to an operational definition of a lack of social norms: the situation was not what the students expected; they did not know how to expect others to act or how others expected them to act in that situation.

In the time remaining after students have reached this conclusion, ask students to describe the social norms that ordinarily operate in a classroom: how students expect a classroom to be, what they expect of others and what they believe others expect of them in the classroom.

ASSIGNMENT:

[Read "Social Norms and Sanctions."]

Assign the reading "Social Norms and Sanctions," in the Student Text.

LESSON 12: FOLKWAYS AND MORES

SYNOPSIS:

After a class discussion of the homework reading, students individually rank ten social norms for their importance to American society, on a scale of 1 to 10. The class' average ranking of the ten norms will be used in Lesson 14. During the remainder of the class period student volunteers participate in two simple activities that illustrate social norms. As a homework assignment, each student violates a relatively unimportant folkway and describes in writing the responses of others to his behavior.

OBJECTIVES:

The student will:

- define and give examples of a social norm, folkway, more, negative sanction and positive sanction.
- describe the relative importance to American society of ten social norms.
- participate in or describe two situations in which individuals automatically follow social norms.
- [illegible] and describe in writing the responses of others to the [illegible]tion of a social norm.

SUGGESTED TEACHING PROCEDURES:

A. Discussion of Homework Reading: Discussion of the homework reading should continue just long enough to ensure that the following points are clear to all students.

1. A social norm is an expected way of behaving in a particular situation. The less important social norms in a given society are called its folkways, and the more important ones are called its mores. Folkways are generally considered convenient; mores are generally considered morally right.

2. A norm is not the same thing as a value principle. If a folkway were translated into a value statement--e.g., "People should greet their friends when they meet on the street"--most people in our society would not consider it

a very important value statement. However, if a more were translated into a value statement--e.g., "People should not kill other people"--most people in our society would acknowledge it as a value principle. A more may be considered a value principle that most members of the society share, but folkways are not likely to be considered value principles. This is a complex matter, and there will be more discussion of it later. The best way to avoid confusion at this point is to focus attention on the fact that all social norms are expected behavior for members of the society, and some norms are more important to the society than others. Another important point is that social norms differ from one society to another, and also vary from place to place and from time to time in the same society.

3. All social norms--whether they are folkways or mores--are backed up by sanctions. Negative sanctions are the undesirable consequences of violating norms, and positive sanctions are the desirable consequences of following norms. The negative and positive sanctions for folkways are generally mild, and the negative and positive sanctions for mores are generally stronger.

B. Ranking Social Norms: List the following ten social norms on the chalkboard.

1. Show respect for your parents.
2. Be honest.
3. Do not commit euthanasia.
4. Achieve high grades in school.
5. Do not steal.
6. Do not smoke in the school restrooms.
7. If you have a communicable disease, stay away from other people.
8. Work hard and always do your best.
9. Do not commit murder.
10. Do not use swear words in the classroom.

Ask each student to take out a sheet of paper and write numerals from one to ten down one side; the numerals correspond to the statements you have written on the chalkboard. The student's task is to rate each statement on the "Continuum of Social Norms" shown at the end of the homework reading "Social Norms and Sanctions," in the Student Text. The student is not to indicate how important the norm is to him. Rather, he is to indicate how important he thinks the norm is to the contemporary American Society in general. For example, if the student thinks that statement number 5, "Do not steal," is as important in American Society as the norm, "Do not commit murder," he should write a 10 next to the number 5 on his paper.

Students should perform this task quickly, without discussion among themselves.

C. Recording Class Responses: This can be done in class if you have enough time, but it can be done afterward, by you or by student volunteers, if time is short. What you will need to know in Lesson 14 is the average class response to each item you have written on the chalkboard. Ten volunteers could find this result quickly as follows: Each volunteer is responsible for recording the class' responses to one item. Seat the volunteers in a line or a circle. The volunteer takes one student's response sheet, writes down on his tally sheet that student's response to the item he is tallying, and passes the response sheet on to the next volunteer. When he has recorded all students' responses to that item, he adds them and finds the total of all students' responses. He then divides by the number of students who responded to the item; the result is the class' average response to that item.

Whether you do this during class or afterward, be sure you make a record of the class' average responses to all ten items for your use in Lesson 14.

D. Demonstration of Social Norms: Each of the following activities should be carried out with a minimum of explanation. The object is to show that students behave "automatically"--without prior reflection--in conformity with social norms. (If the recording of responses consumed the entire class time, the following two activities may be completed at the beginning of the next period.)

1. Clear a long, narrow space in the classroom and send one student to each end. Tell the rest of the students that their task is to observe carefully. Have the two students exchange places quickly; repeat about four times. Then ask those two students to resume their seats, and select another pair of students to perform the same task.

2. Clear as large an area in the classroom as possible. Send a pair of students into the open space and give them a neutral topic to discuss for one minute; use topics such as, "What did you do last weekend?" and, "How did you like last week's game?" Repeat this activity with three or four pairs of students. When the last pair of students is halfway through their conversation, ask them to step one step closer to each other and continue talking.

After both activities are completed, ask the rest of the class what they observed. In the first activity they should have observed the students following a social norm, namely, passing on the right. Discussion of this norm might include students' observations on what happens if you consistently pass on the left when you meet people on the sidewalk.

In the second activity, the class should have observed the students following another social norm, which dictates that people maintain a certain physical distance between them when talking. Ask the last pair of students whether they felt uncomfortable when you asked them to step one step closer for the second half of their conversation.

ASSIGNMENT:

For tomorrow, each student is to select a folkway, violate it several times with different "audiences" and observe the negative sanctions that other people apply to him. Each student should write one or two paragraphs in which he describes the folkway he violated, how and with whom he violated it, what sanctions were brought to bear against him and how he felt while carrying on the activity.

It is important to call students' attention to the ethical problem involved in this activity. They should not select a folkway so important that violation of it will cause others embarrassment or discomfort, and whenever possible they should explain to the others what they were doing after they have done it.

Some ways in which students might violate folkways for the purpose of this activity are listed below. Students may think of others, but you should approve them before the students begin to experiment with them.

1. Pass always to the left, but just barely.
2. Burp at meals.
3. Stand too close while talking.
4. Smile at people you don't know.
5. Don't greet your friends.
6. Greet your friends more warmly than you usually do.
7. Dress formally for an informal occasion.

LESSONS 13 and 14: SOCIAL NORMS AND PERSONAL VALUES

SYNOPSIS:

These two lessons are designed to illustrate the difference between social norms and personal values. At the beginning of the first period students will describe and discuss the negative sanctions they observed when they violated folkways. During the remainder of the two periods the students will compare (1) the importance to society of social norms as indicated by the severity of sanctions against violation and (2) the importance to individuals of value statements based on those social norms, as indicated by scores on the Value Statement Analysis worksheet. The homework reading introduces the topic of conflict between social norms and personal values.

OBJECTIVES:

The student will:

- identify negative and positive sanctions that reinforce given social norms.
- rank social norms according to the severity of sanctions that reinforce them.
- translate social norms into value statements and rank them according to scores on the Value Statement Analysis worksheet.
- compare society's ranking of ten social norms and his own ranking of ten value statements derived from those social norms.

SUPPLIES:

Master: Value Statement Analysis Instrument (one per student, for use in class)

STUDENT TEXT:

It Is Not Easy To Become Sane (homework reading after Lesson 14)

SUGGESTED TEACHING PROCEDURES:

A. Discussion of Assignment: No more than half of the first class period should be devoted to discussion of the assignment. Ask students to describe the folkways they violated and the consequences they observed, including their own feelings. For each folkway violated, compile a list of negative sanctions students observed. If students indicate that they "felt funny" or "got nervous," try to get them to describe what other people did to make them feel that way; the things the other people did are the negative sanctions against violating the folkway in question. If students found that they felt funny even when others made no unusual response, point out that they knew they were violating folkways and expected some negative sanctions even if no obvious ones were forthcoming. This is how social norms work; most people conform to social norms in familiar situations because they know they might suffer negative sanctions if they violated the norms.

When you have compiled a list of negative sanctions for each folkway the students violated, ask the class to rank the folkways from most important to least important, using the severity of the negative sanctions against violation as the "yardstick" for measuring the importance of the folkways. It is not expected that this task will be easy; the rankings will be vague at best. One reason for this difficulty is that one student will consider one sanction (such as being laughed at) more severe than another (such as being ignored), whereas another student will react differently to the same sanctions. Another reason may be that some students are simply less sensitive to negative social sanctions than others. Still another is that students will have violated folkways in different social settings, some of which may have been more tolerant of nonconformity than others.

During this ranking exercise it should be clear to the students that they are talking about the relative importance of various folkways to the society, not to themselves, because they are judging the importance of a folkway by the severity of the negative sanctions that society brings to bear on one who violates the folkway.

B. Group Work on Norms and Sanctions:

Note: Parts B and C can be combined and conducted as a full-class discussion rather than a small-group activity.

The preceding discussion should have prepared students to think about the social sanctions that are applied to enforce other norms more important than the ones the students violated in the homework assignment.

Write on the chalkboard the list of ten norms which appears in the Suggested Teaching Procedures for Lesson 12. List the norms in order in which they appear in the lesson plan, rather than the order in which students ranked them during Lesson 12. In the following activities students will rank the norms again, this time on the basis of the severity of sanctions applied to enforce the norms.

Divide the class into groups of five to nine students and assign to each group the following task: For each of the ten norms written on the chalkboard, identify at least five sanctions, negative or positive, that back up the social norm. (This activity can be begun at the end of the class period, continued as a homework assignment and concluded at the beginning of the next class period.)

Note: If students have difficulty thinking of sanctions, you might suggest that they review the lists of "Sources of Influence" and "Media of Influence" which appear in the first two readings in the Student Text. Students may note that few media apply social sanctions directly (usually only "speech heard in person" and "actions seen in person"). But they should also note that many sources apply sanctions directly (perhaps all but the last three or four on the list of "Sources of Influence" in the Student Text). These facts help to explain why social norms, and the sanctions that back them up, vary so much within the society, or even within a community. Sanctions come from many sources, but they do not come through mass media (except to a person who is publicly praised or blamed). Thus the norms and sanctions of people in one part of the society (or of the community) may be unheard-of and "foreign" to people elsewhere in the society or in the community. (The mass media may tell us about other people's norms and sanctions, but the mass media cannot apply those sanctions to us, except in the unusual cases mentioned above.)

C. Discussion of Group Work: This discussion may be conducted at the end of the first period, at the beginning of the second, or both. Ask a representative from each group to describe all the sanctions the group identified for each of the ten social norms. Record these in ten lists of sanctions on the chalkboard; eliminate duplications in each list. At the end of this discussion you should have ten lists, each indicating a variety of positive and negative sanctions for a particular social norm. Keep these lists on the chalkboard for the students' reference in Part D below.

D. Ranking of Norms by Severity of Sanctions: Ask the class to rank the ten norms listed on the chalkboard for their importance to the society, again using the severity of sanctions as the yardstick of "importance to the society." This activity should take the form of a class discussion; at the end of the discussion the class should have produced an approximate ranking of the ten norms. When this has been accomplished, write on the chalkboard next to each norm the average score that the class gave to that norm in Lesson 12 (Part B of the "Suggested Teaching Procedures").

At this point the students have before them two indications of the relative importance of ten social norms to the society as a whole. One they produced by locating the norms on a continuum between "Greet a friend" and "Do not commit murder" (the higher the number, the greater the importance of the norm); the other

they produced by ranking the norms according to the severity of the sanctions with which society backs them up. Go over these two rankings with the class. If there are any major discrepancies between the "continuum" rank and the "sanctions" rank of a norm, discuss it with the class and try to establish a conclusion acceptable to all. It is not expected that there will be many major discrepancies.

E. Personal Values and Social Norms: The remainder of this lesson outlines a sequence of activities whereby the student can compare (1) the relative importance to him (in terms of his own values) of the norms written on the chalkboard and (2) the relative importance to society (as indicated by the severity of social sanctions) of the same ten norms.

[Review the "Value Statement Analysis Instrument" Master.]

1. Restating Norms as Value Statements: Through class discussion, have the students restate each of the norms written on the chalkboard as a value statement, i.e., a statement of the form, "People should (or should not)..."

2. Ranking Value Statements: Distribute to each student one copy of the "Value Statement Analysis Instrument." Ask students to apply the instrument to each of the ten value statements the class has generated, one statement at a time. Note that only the bottom half of the instrument need be used. Each student should produce ten VSAI scores, one for each value statement, on a separate sheet of paper. The students should then rank the value statements according to the scores he has given them, from the highest (most important) to the lowest score.

3. A Reminder about the Limitations of the VSA Instrument: The usefulness and limitations of this instrument were described in the reading "How Important Is a Value Statement?" (pp. 6-9 in the Student Text for Unit III). Due to the design of the instrument, a high VSAI score indicates that a value statement is important to the person who scored it, but a low score does not necessarily indicate that the value is unimportant.

For example, the value statement restating the norm, "Do ot commit euthanasia," will receive low scores because students have not been in a position where they had to make a choice whether to commit euthanasia. Despite the low scores, however, some students may feel very strongly about this norm (either for it or against it). A result such as this again illustrates the variety of social norms in a society. Some social norms, such as "Do not commit euthanasia," apply only in a small number of situations involving certain types of people (such as health care providers and the relatives of terminally ill people). For other people and in other situations, this norm is seldom a matter of practical concern--something that must be decided and acted upon--although it may be a matter about which people have strong feelings.

4. Discussion: In discussing statements to which students gave high scores on the VSAI, you might ask students to compare the ranking of their top three or four statements, on the one hand, and the positions of those same statements in the rankings that the class produced by estimating the importance of norms to the society. The following types of questions may stimulate discussion.

a. Why does this norm rank high in the VSAI analysis, but rank low in the class estimate of the importance of these norms to society?

b. Why does this norm not rank high in the VSAI analysis although it ranks high in importance to society?

Students should be encouraged to recognize that the social norms which most influence their own behavior (as indicated by high scores on the VSAI) may be different from the social norms that they feel most strongly about, or that they believe the society enforces most strongly.

In discussing statements to which students gave low scores on the VSAI, you might encourage students to talk about the sanctions that they think (or know) are applied to other people. If a norm is not enforced by strict sanctions in

any part of society, then it may be no more important to others than it is to the students. But if the norm is backed up by strong sanctions for some people, then it may be one which is important to the society as a whole, even though it does not have much direct influence on the students' own behavior.

ASSIGNMENT:

[Read "It is Not Easy To Become Sane."]

Assign the reading "It Is Not Easy To Become Sane," in the Student Text. The questions will be the subject of discussion in the next lesson.

MASTER: VALUE STATEMENT ANALYSIS INSTRUMENT

INSTRUCTIONS: 1. WRITE THE VALUE STATEMENT BEING ANALYZED. 2. USING THE PROCEDURE OF CONTINUALLY ASKING "WHY?" DETERMINE THE UNDERLYING VALUE PRINCIPLE. 3. USE THE VALUE STATEMENT (NOT THE PRINCIPLE) IN ANSWERING THE FIVE QUESTIONS. FOR EACH QUESTION THREE ANSWERS ARE PROVIDED. CIRCLE THE NUMBER FOLLOWING THE ANSWER YOU WISH TO GIVE TO EACH QUESTION. 4. ADD THE NUMBERS YOU HAVE CIRCLED.

VALUE STATEMENT: _____

VALUE PRINCIPLE: _____

QUESTION	POSSIBLE ANSWERS (CIRCLE ONE FOR EACH QUESTION)	
1. [illegible]OU BEEN PRESSURED TO MAKE THIS VALUE STATEMENT?	NO. THERE HAS BEEN NO PRESSURE ON ME.	4
	SOMEWHAT. THERE HAS BEEN A LITTLE PRESSURE.	2
	YES. OTHER PEOPLE HAVE TRIED TO INFLUENCE ME.	0
2. HAVE YOU CONSIDERED ALTERNATIVE VALUE STATEMENTS ON THIS SUBJECT?	YES. I'VE GIVEN THEM CAREFUL CONSIDERATION.	4
	I'VE GIVEN SOME THOUGHT TO ALTERNATIVES.	2
	NO, I HAVEN'T THOUGHT MUCH ABOUT ALTERNATIVES.	0
3. HAVE YOU CONSIDERED THE CONSEQUENCES IF MANY PEOPLE ACTED ON THIS VALUE STATEMENT?	YES, I'VE GIVEN THEM CAREFUL CONSIDERATION.	4
	I'VE GIVEN SOME THOUGHT TO THE CONSEQUENCES.	2
	NO, I HAVEN'T REALLY THOUGHT ABOUT THEM MUCH.	0
4. ARE YOU WILLING TO AFFIRM THIS VALUE STATEMENT PUBLICLY EVEN THOUGH YOU WOULD STAND TO GAIN NOTHING BY AFFIRMING IT?	YES. I WOULD MAKE IT ANYWHERE AT ANY TIME.	4
	I THINK SO, BUT POSSIBLY WITHIN SOME LIMITS.	2
	NO, I DON'T THINK I WOULD MAKE IT PUBLICLY.	0
5. HAVE YOU TAKEN ANY ACTION THAT DEMONSTRATES YOUR AGREEMENT WITH THIS VALUE STATEMENT, EVEN THOUGH YOU STOOD TO GAIN NOTHING BY THE ACTION?	YES. I HAVE OFTEN TAKEN SUCH ACTION.	4
	I HAVE TAKEN SUCH ACTION AT LEAST ONCE THAT I RECALL.	2
	NO. I HAVE NOT TAKEN SUCH ACTION.	0

TOTAL OF CIRCLED RESPONSES ___

LESSON 15: CONFLICT BETWEEN SOCIAL NORMS AND PERSONAL VALUES

SYNOPSIS:

In this lesson students discuss the conflict between social norms and personal values, and society's use of sanctions in this conflict, as illustrated in the homework reading.

OBJECTIVES:

The student will identify social norms, sanctions and personal values in a fictional situation.

STUDENT TEXT:

Assignment: Social Norms and Sanctions (optional homework assignment)

Personal Values about Drug Use (assignment in preparation for Lesson 16)

SUGGESTED TEACHING PROCEDURES:

A. Discussion of the Reading: Discuss the reading assignment, using the three questions provided. The social norm involved is to believe that, in the words of the author, "whatever the Party holds to be truth is truth." Negative sanctions include excruciating pain and the label of "insanity;" positive sanctions include the comforting behavior of O'Brien after Winston says, "Four! Four! Five! Four! Anything you like. Only stop it, stop the pain!" Sanity is defined as conformity to the norm described above, a willingness to engage in "doublethink."

This selection (and rest of the novel 1984) presents a vivid analysis of the difference between social norms and personal values. Many people have used 1984 as an informal yardstick for measuring the degree to which personal values and personal behavior are overwhelmed by social norms and social sanctions in our own society, and discussion of the selection should not be terminated as long as it can be related to the topic of norms, sanctions and the potential conflict between social norms and personal values. Students may note the use of the phrase, "a minority of one," in the reading, and they should be encouraged to relate the reading to the "experiment in perception" performed earlier. That experiment demonstrated the effects of group pressure on a minority of one. Even when there is no question of right or wrong at stake, many people feel very uncomfortable being different from others because they fear negative sanctions such as ridicule and ostracism. Society uses this fear of negative sanctions to make people conform to its social norms; the more important the norm, the more severe the negative sanctions that are threatened. In the reading, Winston is a person who has not been swayed by the fear of negative sanctions, and so he is being subjected to the sanctions themselves.

ASSIGNMENT:

[Read "Assignment: Social Norms and Sanctions."]

A. If you wish to evaluate student knowledge of social norms and sanctions, you can ask students to complete the assignment "Social Norms and Sanctions," in the Student Text. You may wish to discuss student responses to this assignment as an additional day in this sequence. If you do have a discussion of the responses, a useful evaluation is to have a story read aloud, then ask other students to identify norms, sanctions and value principles as suggested in the assignment.

[Read "Personal Values about Drug Use."]

B. In preparation for Lesson 16, ask students to read "Personal Values about Drug Use," in the Student Text.

LESSONS 16 through 21: ATTITUDES TOWARD DRUG USE

PREFATORY NOTE TO THE INSTRUCTOR:

In the first five lessons of this sequence your class will determine their own attitudes toward drug use and measure the attitudes of teachers, parents and other students. In the sixth lesson students will consider influences on drug use in addition to the attitudes of others.

The method of measurement in the first five lessons is a survey using a questionnaire. A review of previous lessons in Unit I, Unit III and this unit may be helpful in preparation for this sequence.

These six lessons are related to the Science lessons your class has just begun (Science Unit IV, Lessons 14-20) in that both courses are now considering the topic of drugs and drug use. However, in Science the topic is approached from the perspective of pharmacology. A central question of the Science sequence might be, "what are drugs and how do they affect the nervous system and other parts of the body?" In Social Science, a central question of this sequence is, "What affects human behavior with regard to drug use?" These are complementary questions, which you and your colleague in Science can stress throughout the sequence.

The structure of this unit may not be obvious to all students. For example, there is a clear relationship of this sequence on drugs to the previous sequence on significant others (lessons 7 through 10). In those lessons students discovered the relative importance of peers, adult relatives and teachers for twelfth-grade students in their own school. The results of that study, when combined with the data on attitudes of those three categories of people toward drug use by eleventh- and twelfth-graders, should be of interest to your students.

One consequence of these lessons is that students will possess an immense amount of data--more than they can possibly interpret in a few class meetings. Another consequence is that they will be interpreting and generalizing from data even though they do not know whether these data are statistically significant. On the first count, too much information is almost always a preferred state in survey research. It may be that some students will have uses for the data outside the normal lesson sequence; for example, they may wish to do a more extensive mathematical analysis, or they may want to do a separate analysis for the school paper. On the second count, students may want to apply a test of statistical significance, using the same Supplementary Mathematics lesson provided for use after Social Science Lesson 10. If so, they will have abundant data to analyze according to whatever variables interest them.

ADVANCE PREPARATIONS:

There are three things you must do before you teach these lessons. First, free yourself during the two periods that Biomedical Science is taught on the day of Social Science Lesson 18, so that you can work with students. By the same token, it will be helpful if the Biomedical Science teacher can be free during Biomedical Social Science class on that day. The presence of two instructors during the complex tabulation and data-gathering activities of Lesson 18 will be very useful.

Second, arrange for the visits of some of your students to two or three required eleventh- or twelfth-grade classes which meet during the first period of Biomedical Science or Biomedical Social Science on the day of Lesson 18. (For example, if your students meet first in Biomedical Science, and that class meets third and fourth periods, arrange for students to visit other classes during the third period.) Some of your students will visit these classes to administer a questionnaire; they should need no more than fifteen minutes. Use classes that all students must complete for graduation; avoid "special" or "tracked" classes. Contact the instructors of these classes as soon as possible to arrange for your students to administer the questionnaire.

Finally, you should draw a random sample of teachers in your school and request that they complete the questionnaire. It is most manageable for the students if they have approximately thirty teacher responses to tabulate. Decide what proportion of the faculty is represented by this number. If there are one hundred teachers you would draw a sample of thirty-four (one of three, or every third teacher); if there are one hundred twenty teachers you would sample thirty (one of four, or every fourth teacher). To draw a random sample, secure an alphabetical list of teachers, start anywhere on the list, underscore the name of that instructor, and proceed to underscore every third or fourth name on the list (depending on the proportion you want in your sample). Alternate male and female names: if the last name underscored was female and the next to appear in your sequence is also female, proceed until you reach the name of a male teacher; underscore it and then proceed in your sequence, junping to the third or fourth name below the last one underscored. This will give an approximate balance by sex.

If one sex is clearly overrepresented on your faculty, you will have a better sample if you draw respondents from each sex separately. For example, if you wanted every third teacher in your sample, you would first divide the list according to sex, starring every female name; then select every third starred name, then every third unstarred name.

If your faculty is small you may need to sample one of every two teachers. It is tempting to administer the questionnaire to every teacher in this case, but for purposes of this lesson it will be better to sample. In this way students can work with a real sample, randomly selected.

Survey the faculty as far in advance of the lessons as possible. This will allow you to contact those teachers who do not respond (you'll need to code the questionnaires if you plan to do this) to insure an adequate number of respondents. If you don't code the questionnaires you can select a second, much smaller sample (say, every tenth name) from the same list, skipping to the next name if a respondent happens to have been drawn in the original sample. Keep the completed questionnaires for use in Lesson 18.

SYNOPSIS:

We have departed from the usual format of providing a synopsis as an introduction to individual lessons, and provide all five synopses here so that you can quickly see how the lessons interrelate.

Lesson 16: Students receive and complete a worksheet that asks them to respond to the statement, "Eleventh- and twelfth-grade students should be free to use this substance if they wish," as applied to seven substances: beer, cigarettes, cocaine, heroin, marijuana, pills (stimulants and depressants) and whiskey. Tabulation of results precedes a class discussion (or small group discussions) in which students clarify their own positions on the statement. The discussion then centers on the probable positions of other students and of teachers and parents.

Lesson 17: Students receive a questionnaire designed to test the beliefs of parents, teachers and peers on the statement discussed in Lesson 16. Then students reconsider the concept of a representative and random sample. They compare a random sample of teachers, a quasi-random sample of students (consisting of students enrolled in required classes) and a non-random sample of parents. They then discuss questionnaire administration. The assignment is to administer the questionnaire to parents.

Lesson 18: This lesson is a combination of three class periods, yours and the two Science periods on the same day; it does not matter which comes first. In the first period, some students go to the two or three required classes you have selected and administer the questionnaire. Other students begin tabulating the responses of parents and teachers and converting the raw data to percentages. During the second period the tabulation of results from student respondents is begun. During the third period this process is continued, results are checked, a master table is prepared, and students record data on blank tables and decide

on some possible ways of comparing data. As an assignment, students organize data in ways they believe appropriate, and explain why these ways are appropriate.

Lesson 19: Students present results from the assignment. The discussion centers on reasons for organizing the data in the ways students have suggested. This is a complex situation, and many comparisons and condensations can be made. Students should leave the class with a feeling that they can manipulate data in ways that are useful in comparing variables. As an assignment students organize the data in ways they have decided are useful, and draw generalizations from the configurations of data.

Lesson 20: Generalizations from the assignment are discussed on two counts: the accuracy with which they reflect the data, and their importance with regard to the question of attitudes toward drug use. Then students are asked to return to their original positions and reflect on them in light of these data and the generalizations. They then discuss the reasons one might have for making particular decisions about personal drug use. A summary of what has been studied regarding influences on human behavior completes this sequence.

LESSON 16: DISCUSSION OF STUDENTS' ATTITUDES TOWARD DRUG USE

OBJECTIVE:

The student will establish a personal position on the use of seven drugs by adolescents and state grounds for his or her position.

SUPPLIES:

Master: Worksheet on Personal Values about Drug Use (one per student, for use in class)

SUGGESTED TEACHING PROCEDURES:

[Read the Master.]

Refer students to the assignment "Personal Values about Drug Use," in the Student Text, and tell them that the worksheet they will complete is based upon that assignment. Then distribute the worksheet and allow sufficient time for each student to complete his or her copy. Stress the need for providing grounds for their responses. Also emphasize the right to keep responses anonymous. When the worksheets are completed, collect them and tabulate the results for each substance. Display these on the board so that students can see how their class responded and what differences of opinion exist within the class.

At this point you should proceed to a discussion of the results. You have at least two options. The first is to hold a general discussion, moving down the list of substances and using student responses to ascertain that students see that personal values can and do differ and that there are supporting grounds for the differences.

A second option is to form groups on the basis of circled responses. Form groups consisting of a variety of positions (regardless of grounds) and instruct the students to listen to the opinions of others in their group. When either activity is completed, and toward the end of the period, shift the discussion to a question similar to the following: "Given your own position, how do you think it would compare with responses of other students in this school, of teachers in this school and of your parents?" Reactions will be varied; allow students to speculate. Then, when they have had an opportunity to state their views, tell them they will be able to test these views through direct gathering of evidence (by administering a questionnaire).

ASSIGNMENT: There is no assignment.

MASTER: WORKSHEET ON PERSONAL VALUES ABOUT DRUG USE

FIRST TIME:

CIRCLE THE LETTERS (SA,A,D,SD) WHICH MOST CLOSELY REPRESENT YOUR POSITION ON THE FOLLOWING VALUE STATEMENT AS IT APPLIES TO EACH OF THE SEVEN SUBSTANCES LISTED. THEN STATE THE REASONS, OR GROUNDS, FOR YOUR POSITION. DO NOT WRITE YOUR NAME ON THIS WORKSHEET.

"ELEVENTH AND TWELFTH GRADE STUDENTS SHOULD BE FREE TO USE THIS SUBSTANCE IF THEY WISH."

(SA = STRONGLY AGREE A = AGREE D = DISAGREE SD = STRONGLY DISAGREE)

BEER SA A D SD GROUNDS:_____

CIGARETTES SA A D SD GROUNDS:_____

COCAINE SA A D SD GROUNDS:_____

HEROIN SA A D SD GROUNDS:_____

MARIJUANA SA A D SD GROUNDS:_____

PILLS (STIMULANTS AND DEPRESSANTS) SA A D SD GROUNDS:_____

WHISKEY SA A D SD GROUNDS:_____

LESSON 17: DISCUSSION OF SURVEY METHODS

OBJECTIVE:

The student will describe at least one way in which a random sample of students in one school could be obtained.

SUPPLIES:

Questionnaire on Personal Values about Drug Use (two per student; for use in completing the assignment)

SUGGESTED TEACHING PROCEDURES:

A. Discussion of Sampling: Report to the class that they will be able to compare results from three populations: teachers, students and parents. Review the material on sampling provided in Unit III if you believe a review is necessary. Then describe the exact procedures you used in obtaining the teacher sample. Tell the class that they will administer a questionnaire to one or two adults in their own households, and that they will also administer the questionnaire to students enrolled in required classes. This should provide students with enough information to determine the answer to the question, "Of the three groups, which sample comes closest to being a random sample?" The answer is the teacher group, because every teacher on the faculty had an equal chance of being selected. If the parent population is defined as parents of students in your high school, students can see that the sample is very biased; only parents of Biomedical students had a chance of being selected. If the parent population is defined as parents of Biomedical students there isn't any sample; the students will have researched the entire population. The student sample is not a true random sample since it is not true that every student (or every eleventh- and twelfth-grade student) had an equal chance of being selected. However, the procedure that was used to sample students is less subject to bias than a "hit-or-miss" procedure of asking students their opinion during a cafeteria period or after school. The school schedule has, in effect, given some assurance that the students in the required classes are representative of the student population simply because all students of the appropriate grade level must be in those classes. Students should be able to describe a more accurate method by which they could sample the student population if they had time to do so.

B. Preparation for the Survey: The second half of the period should be spent in preparation for the next day's activities. Explain to the students that some of them will go to required classes to administer the questionnaire. You should decide, or let the students choose, who will do this. Three students should go to each of the classes you have selected. You can have the same three students go to all of the classes, or have a different group of three students go to each class. The former is a more efficient choice since the rest of the class will be busy tallying while student data are being collected. However, it may be better to interrupt the classes at the start, rather than in the middle, so the use of two or three groups of three students each would work better.

When the decision on who will administer the questionnaire is made, explain that the rest of the class will be tallying results from parent and teacher responses. Details for the tallying will be given in the next lesson.

ASSIGNMENT:

[Read the Master.]

The last thing to do is to distribute two copies of the questionnaire to each student and spend some time discussing it. Each student is to administer it to his parents, or to one or two adults in his household. The important point is that the respondents should be at least one generation older than the students. This will eliminate siblings who may legally be classified as adults, but who are not one generation older. It is important to mention this because some students will not have both biological parents living in their households. To avoid

embarrassment, you should explain the rationale for selecting adults who "act as parents" (even grandparents will do) and let the students make their own judgments about administering the questionnaire.

There are some points students should remember in administering the questionnaire. They should stress that the questionnaire asks for opinions about the statement; it does not ask whether the respondents use the drugs. The questionnaire is intended to be anonymous; it will not be if students receive completed questionnaires from their own parents. This may also bias results; parents may believe that teenagers should be allowed to smoke cigarettes, but may not want to encourage their own family to do so. There is a way of partially avoiding this problem. The students can ask their parents to put the completed questionnaires in envelopes and seal them. Of course a distrustful parent won't believe that his own child won't open the envelope, but little can be done about that. You and your students can decide on whether to use this procedure.

Before class is over be certain that students understand how the questionnaire is to be completed, what is to be circled and what is to be checked. Remind them that any questionnaires which do not include completed identification items (sex and role) will not be tallied. They should stress this fact to their respondents.

MASTER: QUESTIONNAIRE ON PERSONAL VALUES ABOUT DRUG USE

THE BIOMEDICAL CLASS IS INTERESTED IN FINDING OUT WHAT PARENTS, TEACHERS AND STUDENTS THINK ABOUT THE USE OF DRUGS. WE ARE NOT ASKING WHETHER YOU USE DRUGS YOURSELF. WE ARE ASKING YOUR PERSONAL OPINION ON WHETHER STUDENTS OUGHT TO BE ALLOWED TO USE CERTAIN SUBSTANCES THAT CAN BE CONSIDERED DRUGS. WOULD YOU HELP US BY COMPLETING THIS QUESTIONNAIRE? YOUR OPINION WILL BE ANONYMOUS; DO NOT WRITE YOUR NAME ON THE QUESTIONNAIRE. THANK YOU FOR ASSISTING US.

LISTED BELOW ARE SEVEN SUBSTANCES. READ THE FOLLOWING STATEMENT AND THEN CIRCLE THE RESPONSE WHICH MOST CLOSELY REFLECTS YOUR PERSONAL OPINION ON THE STATEMENT WITH REFERENCE TO EACH OF THE SEVEN SUBSTANCES.

"ELEVENTH- AND TWELFTH-GRADE STUDENTS SHOULD BE FREE TO USE THIS SUBSTANCE IF THEY WISH."

BEER	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
CIGARETTES	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
COCAINE	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
HEROIN	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
MARIJUANA	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
PILLS (STIMULANTS AND DEPRESSANTS)	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
WHISKEY	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE

PLEASE CHECK THE APPROPRIATE BOX FOR THE FOLLOWING TWO QUESTIONS:

1. PARENT OF A BIOMEDICAL STUDENT ☐ TEACHER ☐

   STUDENT (11TH GRADE) ☐ STUDENT (12TH GRADE) ☐

2. FEMALE ☐ MALE ☐

LESSON 18: RECORDING DATA FROM THE SURVEY

OBJECTIVE:

The student will tally, convert to percentages, organize, condense and record data from completed questionnaires.

SUPPLIES:

Blank paper ($8\frac{1}{2}$ x 11")

Questionnaire on Personal Values about Drug Use (enough copies for each class being surveyed)

Worksheet for Recording Data from the Questionnaire (as many copies as are needed for groups recording data, for use in class)

Summary of Data on the use of _____ (seven per student, for use in class)

Summary of Condensed Data (one per student, for homework assignment)

SUGGESTED TEACHING PROCEDURES:

This is a three-period lesson, taught in cooperation with the Biomedical Science class. The tasks are detailed and specific. If your class is able to complete them before three periods have passed, you should move on to the next lesson. If they do not complete the tasks in three class periods there will be time to do so during the next class meeting.

It is important that students take their time and do a conscientious job, as the results will form the basis of future discussions. Students do not always find data tabulation terribly exciting, but when they have gathered the data themselves they are usually interested enough in the results to maintain active participation. Our rationale for this lesson is that students should come to appreciate the nature of data collection so that they will better understand what underlies research results they will encounter.

These "Suggested Teaching Procedures" are given in the form of a list of tasks to be accomplished; it is expected that they will overlap the three periods with no clear break. For this reason it is best if one classroom is reserved for the three periods and any intervening ones. This is usually not possible, so you and the Science teacher should allow a few minutes at the end of the first session to set aside the data sheets and questionnaires in an organized fashion, allowing students to resume their tasks when they return to class.

Because classes differ in size, because your class may administer the questionnaire to two or more required classes and because the number of respondents will differ from school to school, exact procedures for these tasks may require modification. (For example, it is impossible to state exactly how many tally groups should be formed.) Please review these tasks with the Science teacher before class begins.

A. Collect completed questionnaires that students administered to parents.

[Review the Master for the questionnaire.]

B. Distribute blank questionnaires to those students who will be administering them to other students. Be certain that they are aware of the location of the classes and that they know how to administer the questionnaire. They should stress to the respondents the importance of completing the identification questions and they should answer any questions about the questionnaire before respondents turn them in. Tell these students to return the questionnaires to you.

Note: Refer to the previous lesson for information on how many students you will need to complete this task.

C. Divide the remaining students into seven groups of approximately equal size, and assign to each group one of the seven substances named on the questionnaire. Be sure each group knows which substance is assigned to it. The reason for assigning one substance to each group is that students will become much faster at locating data on the completed questionnaires if they always seek the same information.

D. In each group, one student will be reading data and the other students will be recording data. Have each group decide who will be the reader.

[Look over the Master, "Worksheet for Recording Data from the Questionnaire."]

E. Give to the reader in each group two copies of the "Worksheet for Recording Data from the Questionnaire." At the top of both worksheets the reader should circle the substance his group is recording. At the top of one worksheet the reader should circle the respondent group "Parents," and at the top of the other worksheet he should circle the respondent group "Teachers." Only the reader will write on these worksheets; he will record the totals that the recorders report to him from their tally sheets.

F. Give to each recorder in each group about a dozen blank sheets of paper. Copy on the chalkboard the "Tally Sheet" illustrated here. Tell the recorders that they are to copy this form on the blank sheets of paper that you have given them. They do not have to do so now, but they will have to do so several times during the tallying procedure.

TALLY SHEET

	F	M
SA		
A		
D		
SD		

G. Divide the completed questionnaires (some from Parents and some from Teachers) into seven piles of approximately equal size. Do not mix Parent and Teacher responses. If you have about equal numbers of Parent and Teacher responses, then form three piles of Teacher and four piles of Parent responses. If you have, say, twice as many Parent responses as Teacher responses, then form five piles of Parent responses and two piles of Teacher responses.

On top of each pile place a cover sheet, and write on the cover sheet (1) the respondent group whose questionnaires are in the pile (either Parents or Teachers) and (2) the names of the seven substances named on the questionnaire: beer, cigarettes, cocaine, heroin, marijuana, pills and whiskey. Tell the students that each group will tabulate the responses on one substance from all these piles. When a group has tabulated the responses on one substance from one pile, the reader will check off that substance on the cover sheet and then pass the pile on to the next group, which will tabulate a different substance.

Distribute one pile of completed questionnaires to each group, but tell the groups not to begin work until you ask them to.

H. Following are the instructions for group work. We recommend that you run through steps 1-5 one step at a time while each group is tabulating its first pile of questionnaires. You can check on the progress of each group at each step to be sure the instructions are clear.

1. Each recorder should prepare a tally sheet by copying the form you have written on the chalkboard. In the upper left-hand corner, the recorder should write (1) the substance the group is recording, (2) the respondent group whose questionnaires are in this pile and (3) the recorder's name.

2. The reader will now read the response from each sheet for the substance his group is recording. For each questionnaire the reader will state (1) the sex of the respondent and (2) the response circled. For example, he may read "Female, Strongly Disagree." Each recorder will then place one tally mark in the lower left-hand cell on his tally sheet. If on the next questionnaire

the reader reads, "Male, Strongly Agree," then each recorder will place one tally mark in the upper right-hand cell of his tally sheet. This should be done slowly and carefully on the first pile, so that readers can get the hang of finding the right information and recorders can get the hang of recording it in the right place.

3. When the reader has read the responses from all the questionnaires in the pile, each recorder is to add the number of tallies in each cell of his response sheet and write the total for each cell in that cell.

4. Next, the reader will transfer these totals to the appropriate copy of the "Worksheet for Recording Data from the Questionnaire" (step 1 in the instructions on the worksheet). The reader should locate the worksheet for the respondent group whose questionnaires are being tabulated, and then read off the names of the first eight cells (they are numbered on the worksheet). When the reader says, "Female, Strongly Agree," each recorder will call out the number of tallies he has in that cell on his tally sheet. If all recorders agree on this number, the reader will write the number in cell 1 of the worksheet. If the recorders do not agree on this number, the group will have to go back to step one and tally the entire pile again.

5. When all recorders agree on totals for all eight cells, and when the reader has recorded these totals (some may be zero), the group has finished with this pile of questionnaires. The reader should check off the group's substance on the cover sheet and pass the pile on to the next group. The recorders should discard their tally sheets and make up new ones for the next pile of questionnaires.

Repeat steps 1 through 5 for each of the seven piles of questionnaires.

Note: The reader has only one worksheet for Teacher responses and one worksheet for Parent responses. He will be writing more than one number in each cell on each worksheet, because his group will be tallying more than one pile of questionnaires from each respondent group. Be sure readers understand that they are supposed to use the same two worksheets for all seven piles of questionnaires.

6. When all seven groups have tabulated all seven piles of questionnaires, so that each pile's cover sheet has all seven substances checked off, it is time to find the totals (step 2 in the instructions on the worksheet). In each group, the reader has two worksheets with numbers in cells 1 through 8. The reader should calculate the grand total for each cell, write the total in the cell and circle it. Each of the recorders should check the reader's arithmetic.

7. The next step is to calculate the totals (steps 3 through 5 in the instructions on the worksheet) and the percentages (step 6) for each worksheet. The calculations for each worksheet should be done at least twice, by different members of the group so that the results can be checked.

8. One student for each group should record the group's results (cells 1 through 24 of both worksheets) either on the chalkboard or on poster paper that can be displayed. Be sure that each table includes substances and respondent-group identification.

I. This point is not necessarily in order. Whenever the students who are conducting the survey in other classes return, they will turn the completed questionnaires over to you. You can handle these in either of two ways.

1. Put these extra students into one or two groups (no fewer than three students to a group) and have them tabulate the results from the Student questionnaires. Each group should tabulate responses on all seven substances, and the groups should then compare their results. Each group will need seven copies of the worksheet: one for each substance, but all with the same respondent group ("Student") circled.

2. Alternatively, divide the student responses into seven piles, prepare a cover sheet for each pile, and feed these to the already-established

groups as they finish tabulating Parent and Teacher responses. Each group will need one new worksheet, on which the reader should circle the respondent group "Students" and the substance the group is recording. If you use this option, the students who came in late can be set to work checking the totals and percentages from the other groups' work or recording data on the chalkboard or poster paper so that the other groups can continue working on the Student data.

In either case, the Student data should be recorded on the chalkboard or on poster paper along with the Parent and Teacher data.

[Look over the two "Summary" masters.]

J. When all data have been checked for accuracy and recorded on the chalkboard or on poster paper, distribute to each student seven copies of the handout, "Summary of Data on the Use of _____," and one copy of the handout, "Summary of Condensed Data." Using the information on the chalkboard, each student is to fill in the seven blank handouts, "Summary of Data on the Use of _____." This is an experience in translating data from one format to another. Let students work it out through discussion. They must transfer data from twenty-one tables (seven substances times three categories of respondents) to seven two-table sheets. Remind them to record the substance identification on each of the seven blank handouts. The number of respondents is found by looking in the "TOTALS" row from the recorded data (on the worksheets this means cell 13 or 21). It will take some time for students to get all these data recorded.

ASSIGNMENT:

Students should do two things for their assignment. First, they are to complete the handout "Summary of Condensed Data." Point out that this table requires percentages only; no raw data are to be included. They can complete this table by using the seven handouts they have just filled in. Second, they are to organize the data. Specifically, they may create new tables, reorganize the ones they have, or come up with some other method of displaying data so that they are subject to interpretation.

The reason for this assignment is to get students accustomed to the idea that the manner in which data are displayed can affect the manner in which they are interpreted. Students may choose to compare responses on two substances, for example. Or they may wish to look at the number of parents who agree or strongly agree in general, regardless of substance, as compared with the number of students or teachers who do the same. There are many possibilities. Students should be prepared to explain why they chose to organize the data as they did. There is no reason students should not work together on this assignment if they choose, and they should be encouraged to do so. They should come to the next class meeting with new tables and reasons for the new tables.

MASTER: WORKSHEET FOR RECORDING DATA FROM THE QUESTIONNAIRE

SUBSTANCE (CIRCLE ONE): BEER CIGARETTES COCAINE HEROIN MARIJUANA PILLS WHISKEY

RESPONDENT GROUP (CIRCLE ONE): PARENTS STUDENTS TEACHERS

INSTRUCTIONS:

1. FOR EACH PILE OF QUESTIONNAIRES, WRITE THE RECORDERS' AGREED-ON TOTALS IN CELLS 1-8.
2. CALCULATE, WRITE AND CIRCLE THE GRAND TOTAL FOR EACH CELL 1 THROUGH 8.
3. ADD ACROSS COLUMNS: CELL 9=1+5, CELL 10=2+6, CELL 11=3+7, CELL 12=4+8.
4. ADD CELLS 9, 10, 11 AND 12; RECORD TOTAL IN CELL 13. CHECK TOTALS.
5. ADD CELLS 9 AND 10 AND RECORD TOTAL IN CELL 19; ADD CELLS 11 AND 12 AND RECORD TOTAL IN CELL 20.
6. FIGURE PERCENTAGES: CELL 14 = CELL 9 ÷ CELL 13 X 100
   CELL 15 = CELL 10 ÷ CELL 13 X 100
   CELL 16 = CELL 11 ÷ CELL 13 X 100
   CELL 17 = CELL 12 ÷ CELL 13 X 100
   CELL 22 = CELL 19 ÷ CELL 21 X 100
   CELL 23 = CELL 20 ÷ CELL 21 X 100

CELLS 18 AND 24 (COLUMN TOTALS) SHOULD BE ABOUT 100%. CHECK FIGURES.

	Tally Space						
	Female	Male	Total	Percent	Total	Percent	
Strongly Agree	1	5	9	14	19	22	Agree and Strongly Agree
Agree	2	6	10	15			
Disagree	3	7	11	16	20	23	Disagree and Strongly Disagree
Strongly Disagree	4	8	12	17			
TOTALS			13	18	21	24	

MASTER: SUMMARY OF DATA ON THE USE OF _____ (INDICATE SUBSTANCE)

"ELEVENTH AND TWELFTH GRADE STUDENTS SHOULD BE FREE TO USE THIS SUBSTANCE IF THEY WISH."

NUMBER OF RESPONDENTS: PARENTS _____ STUDENTS _____ TEACHERS _____

TABLE I

RESPONDENTS	RESPONSES															
	STRONGLY AGREE				AGREE				STRONGLY DISAGREE				DISAGREE			
	FEMALE	MALE	TOTAL	%	FEMALE	MALE	TOTAL	%	FEMALE	MALE	TOTAL	%	FEMALE	MALE	TOTAL	%
PARENTS																
STUDENTS																
TEACHERS																

TABLE II

RESPONDENTS	RESPONSES							
	STRONGLY AGREE AND AGREE				STRONGLY DISAGREE AND DISAGREE			
	FEMALE	MALE	TOTAL	%	FEMALE	MALE	TOTAL	%
PARENTS								
STUDENTS								
TEACHERS								

MASTER: SUMMARY OF CONDENSED DATA

"ELEVENTH AND TWELFTH GRADE STUDENTS SHOULD BE FREE TO USE THIS SUBSTANCE IF THEY WISH."

TABLE III

	PARENTS		STUDENTS		TEACHERS	
SUBSTANCE	% AGREE	% DISAGREE	% AGREE	% DISAGREE	% AGREE	% DISAGREE
BEER						
CIGARETTES						
COCAINE						
HEROIN						
MARIJUANA						
PILLS						
WHISKEY						

LESSON 19: ORGANIZING THE RESULTS OF THE SURVEY

OBJECTIVES:

The student will:

- transfer data to new formats.
- organize data in ways that allow him to seek answers to questions he has about the data.
- provide grounded reasons for his organization of data.

SUGGESTED TEACHING PROCEDURES:

Note: Before the class begins, one completed "Summary of Condensed Data" should be copied on the chalkboard or prepared for display as a transparency.

A. Checking Summaries: Determine whether students have accurately completed the "Summary of Condensed Data." Do this by displaying an accurate copy and asking students to check their copies carefully. This may go quickly, but students often have difficulty transferring data to new formats. If necessary, take time to explain carefully how the new table was completed.

B. Comparing Tables: Compare the three tables used for the assignment. Ask students to identify some differences between the tables in the handout which they completed in class (Tables I and II) and the table in the handout which they completed at home (Table III). There are four important differences, as follows.

1. Table I is not condensed. All degrees of opinion are represented. The other two tables are condensed, with positive opinions lumped on one side and negative opinions lumped on the other.

2. Table III, "Summary of Condensed Data," includes only percentages, not raw data.

3. Table III includes all seven substances. The other two tables are limited to information about one substance.

4. Table III does not include information about responses according to sex of respondent.

C. Discussion of Tables: Two questions should be raised when the students have identified these differences: "Why condense data?" and, "Why use percentages?" You can get at these questions by asking which table is most useful. The answer is that they are all useful, depending on the purpose they serve. Your questioning techniques can help students see the following points.

1. Comparing raw data is misleading if there are different numbers of respondents in different categories. If, for example, three times as many students responded as did teachers, then comparing the number of students who favored allowing students to use a substance with the number of like-minded teachers would not reflect the nature of the populations being sampled. Raw numbers are directly comparable only when samples are of equal size; percentages are comparable regardless of the sizes of the samples.

2. Condensation increases the ease of comparison among samples, but it also decreases precision. Although the data used in these lessons aren't very complex, it is still easier to see differences by condensing the data. In larger tables condensation becomes more important. Subtle differences can be obscured, however, by this process. For example, the two extreme poles of opinion ("strongly...") may reveal more than the middle positions on a particular substance. You can demonstrate this by displaying the following hypothetical distribution of opinions on the use of a substance:

STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
1%	43%	4%	52%

When the data are condensed it appears that 44% favor allowing students to use the substance while 56% do not; the difference isn't very great. However, the complete data show that almost no one strongly supports allowing use of the substance, while over half the respondents strongly oppose it. The simple lesson is that, in a well-intentioned effort to make data more manageable and subject to quicker interpretation, researchers sometimes allow misinterpretations to occur. This should help students realize the usefulness of seeking the actual data behind reports they may encounter or statements they may hear. This difficulty is compounded by the sometimes deliberate distortion of data by promoters of products and causes. The promoter may not misrepresent the facts--dishonesty in the strict sense may not be present--but by manipulating data the promoter may make it possible for a different interpretation to be logically formed. In the example given, the statement that respondents are almost equally divided in their opinions pro and con is accurate, but it ignores the intensity of their opinions.

If students are quick to accept this, and to agree that a complete display of data is always preferable, they can survey their own data to see whether distortion results from condensation. Ask whether there are any reasons to condense these data. This is obviously a relative question: the answer must always lie in the nature of the data.

D. Discussion of Students' Organization of Data: When students are aware of the above points, move on to the tables they have constructed. One way to do this is to ask volunteers to record their tables on the board. You can then ask whether others have similar tables, and use the responses to refine what has been recorded. You can also ask whether there are any other, strikingly different tables. When several tables have been displayed, ask what each is attempting to show and why it is important.

There are literally hundreds of combinations that could be constructed from these data. The important question is: Which reveal useful information about opinions on use of these substances? Students can look for differences by sex, by role or by substance, cross-cut in a number of ways. The most elaborate table would be one that expands the first table on the handout completed in class so that seven substances are included. This would be so unwieldy that it would be difficult to generalize from it by scanning it. Eliminating raw data from any table and dealing only with percentages is often helpful.

You or a student can always question the value of comparisons being made. Why, for example, would one want to compare opinions of male parents with those of female teachers? Or male parents on the use of heroin with female teachers on the use of beer? These comparisons are possible from the data, but students would be hard pressed to find good reasons for making them.

You can point out to students that social scientists often form a hypothesis first. They do this with reference to theory. If a theory suggests a certain possible result, that result can be hypothesized and data can be collected. In this way the social scientist narrows his task before collecting data and thus limits the amount of data he will need. When students indicate why they made the comparisons they did, they have in effect hypothesized about a relationship and displayed data to test it. Looking at the data can lead to new hypotheses.

ASSIGNMENT:

Each student should select one to three tables which he believes to be important and, from the data included in those tables, write generalizations. The assignment will be evaluated on two counts: whether the generalizations stand the test of evidence (whether the data support the generalizations) and whether the generalizations reveal important information about people's opinions on use of drugs by adolescents.

LESSON 20: GENERALIZING FROM THE RESULTS OF THE SURVEY

OBJECTIVES:

The student will:

- generalize from data and show that his generalizations accurately reflect the data.
- defend his generalizations in terms of their importance for understanding opinions about the use of drugs among adolescents.

SUGGESTED TEACHING PROCEDURES:

A. Generalizations and Evidence: Call for generalizations. These should then be the subject of a class discussion on the question of the degree to which they are supported by data. You can do this in a full class discussion or, if very opposing generalizations appear, you can form groups that reflect these differences and ask students to seek agreement.

B. Importance of Generalizations: When you have a pool of accurate generalizations, turn to the question of importance. Of what use is it to know that which the generalization reveals?

C. Comparison of Opinions: To what extent do the generalizations agree with or contradict the student's personal opinion about the use of drugs among adolescents? This is in reference to the statement of personal values developed in Lesson 16. You won't need to spend too much time on this; students will see that they either agree or disagree with parents, teachers and other students.

D. Summary of Knowledge about Influences on Behavior: Use the remaining time to develop a summary of the unit so far. Students should be able to list a number of influences on human behavior, each illustrated by experiments or readings in previous lessons. Several lessons illustrated the importance of the opinions of others; lessons 7-10 dealt specifically with the relative importance of the influences of parents, teachers and peers on adolescents. By asking students to recall these lessons and to consider the relationship of lessons 7-10 with those they have just completed, students should come to realize the importance of the opinions of others as it relates to drug use.

ASSIGNMENT:

There is no assignment.

LESSON 21: OTHER INFLUENCES ON BEHAVIOR

SYNOPSIS:

This lesson serves as a conclusion for Lessons 16-20 and a transition from the topic of drug use back to the more general consideration of influences on behavior. It consists of a general class discussion and preparation for the following lessons.

Note: Be certain to allow sufficient time to prepare students for the next class meeting. The assignment will require some careful planning.

OBJECTIVE:

The student will identify as least one influence on decisions about drug use (in addition to the influences of peers, parents and teachers).

SUGGESTED TEACHING PROCEDURES:

Conduct the discussion in the manner you find most effective. It should pick up where the previous discussion left off, and should focus on influences on decisions about drug use in addition to the opinions of others. A summary of the previous lessons followed by a simple question such as, "What factors, in addition to the opinions of others, may influence a person's decisions about drug use?" may be enough to get the discussion started. Students will probably have a number of suggestions. Four important factors, briefly discussed below, are: addiction, personal needs, controls and regulations, and advertising.

Addiction cannot lead to an initial decision to use a drug, but it is frequently an important element in decisions to continue to use a drug. Students have studied addiction in Biomedical Science and know about some addictive drugs, including alcohol and opiates. Note that patients sometimes become addicted to drugs (such as opiates) used in therapy.

Personal needs are difficult to separate from the influences of other people. A person may feel that the use of a drug will be helpful for some personal reason, but elect not to use that drug because of peer or other pressure. However, students should understand that some decisions are based more on the opinions of others than on personal needs. People do turn to drugs to provide relief from personal concerns or to attempt to meet needs they find difficult to satisfy in other ways. Pills, alcohol and marijuana are frequently used to satisfy personal needs. Habituation, or psychological dependence on a drug, may be related to the drug's ability to satisfy personal needs.

Controls and regulations may be associated with decisions to refrain from using a drug. They may also influence decisions about the manner of acquiring or using a drug. In general, drugs that are illegal must be smuggled, stolen or purchased on the black market, where prices are generally high and quality is generally low. Students might think of a number of regulations on drug use, particularly with reference to legal minors. Note that a drug such as alcohol, which is legally available to some people, is likely to be available relatively cheaply (though illegally) to others; a drug such as heroin, which is not legally available to anyone in this country, is more likely to be both expensive and of poor quality.

Since Lesson 25 considers the effects of governmental regulations generally, it is not necessary to pursue that topic in detail now. The same is true of advertising; the next three lessons are about advertising, so the subject need only be introduced at this time. Students should be able to recall a number of advertisements that are intended to encourage, discourage or alter drug use.

ASSIGNMENT:

Each student is to do one of two things: (1) bring to class an example of advertising (Part A below) or (2) examine and record the nature of the advertising that appears in a specific outlet in a print or electronic communications medium (Part B below).

A. Examples of Advertising: Each student who is assigned this task should bring one advertisement to class. The student may select the advertisement by personal preference; it is not necessary for the purposes of the following lessons that the ad be related to drugs or to health care. Try to plan for a diversity of media outlets. Some students can bring ads from magazines (preferebly magazines published for different markets, such as children, adolescent males, adolescent females, young adults and specialized markets such as business people, hobbyists and the like). Others can bring ads from newspapers. Those who have tape recorders may want to record ads from radio and television. (Note, however, that an audio recording of a television commercial will omit the video message, which is an important part of television advertising.) If some students want to bring tapes, be sure you have the equipment necessary to play them back in class. Some students may wish to report on billboards they observe. If so, they should

bring to class rather detailed descriptions of the billboards and be prepared to sketch the pictures on them.

Students should know that the ads they bring in may be used in an analysis of advertisements during the next class meeting. Students should try to select ads that they personally find persuasive, objectionable or otherwise interesting. For the purposes of this assignment, however, they need only secure the advertisements and identify the media outlets from which they came. Outlets should be recorded in detail; for example, a newspaper ad should be identified by the section of the newspaper it appeared in.

B. Survey of Advertising in Specific Media Outlets: (If you have a small class, you may wish to omit this assignment and the corresponding activity in Lesson 23, and have all students do Part A above.) Each student who is assigned this task should select a particular advertising outlet and tally all the ads that appear in it, noting the product, company or behavior emphasized in each ad. For example, one student could survey all the ads in the sports section of a large newspaper, and another student could do the same for the society section. One student could report on ads in one magazine while other students do the same for other magazines. Radio and television stations may be selected for analysis, using a block of time (such as one hour of prime time on a particular television station) as the "outlet." Some students could survey the billboards and other advertising signs on particular streets or several-block sections of streets. Students might want to compare and contrast the ads from billboards and signs in two different ethnic neighborhoods, or in a residential area and a commercial area.

Students may want to work in pairs on some of these possibilities. If you decide to use this optional assignment, encourage diversity; be sure each student understands that he or she is to report on every advertisement in the outlet being investigated. Each student should produce a summary tally of types of products, companies and behaviors being advertised (e.g., tires 1, cigarettes 4, tennis shoes 2, etc.).

Note: You may wish to secure some copies of medical journals and have them available in the classroom for lessons 22-24. Either or both of the types of investigations suggested above can be applied to medical journals in class. Much of the advertising in medical journals is for prescription drugs. One group of students might wish to compare an ad for a prescription drug in a medical journal with an ad for an over-the-counter drug in a mass-circulation magazine.

LESSONS 22 through 25: LARGE-SCALE INFLUENCES ON BEHAVIOR

PREFATORY NOTE TO THE INSTRUCTOR:

In this sequence students will investigate two types of influence on behavior which are pervasive in American society: the influence of advertising and the influence of government. In the first three lessons of the sequence students analyze particular advertisements in the classroom and (at your option) analyze the types of advertisements which appear in specific media outlets (e.g., the sports section of a newspaper or a magazine for a specialized market such as hobbyists). In the final lesson in this sequence students analyze the influences of local, state and national governments on their actions during a specified period of time.

LESSONS 22 through 24: ANALYSIS OF ADVERTISEMENTS

SYNOPSIS:

These three lessons consist of group work on the analysis of advertisements, reports on surveys of ads in different outlets, and two discussions. The first of the two discussions is based on (1) the results of group work on particular advertisements and on (2) the reports of students who surveyed advertisements in different outlets in the print and electronic communications media. The second discussion considers the functions of advertising. Students are asked to identify positive and negative aspects of advertising, from their own viewpoints, and to state their own value positions on the subject. (Three days are suggested for these lessons; you may need more or less time.)

OBJECTIVES:

The student will:

- participate in the analysis of at least one advertisement.
- state his or her reasons for conclusions about the means by which a particular advertisement may influence people.
- identify positive and negative attributes of advertising, from his own point of view, formulating grounded value statements on the functions of advertising.

SUGGESTED TEACHING PROCEDURES:

A. Group Work on Analyzing Advertisements: Form groups according to your own preferences. Students who surveyed advertising from different outlets should participate in these groups even though they have no advertisements to contribute. Each group should select one advertisement (more if time allows) from among those recorded or brought to class in response to the assignment (Part A). You may wish to make your own suggestions for analysis, or to use some form of the questions that follow. (Groups should have a common set of guidelines for analysis so that the discussion which follows the group work will have a common basis.)

1. Where did the advertisement appear? (Be specific: At what time on which radio station? In what section of which newspaper?)

2. Who do you think paid for the design and execution of the advertisement? For its placement in the media?

3. What behavior is being encouraged (or discouraged)?

4. Is a product (a good or service) involved? If so, what is it?

5. What appeals are made or what reasons or arguments are given for behaving as the advertisement suggests?

6. Does the ad use techniques other than verbal (written or oral) persuasion? If so, what are they?

7. To what sort of persons do these appeals, arguments or other techniques of persuasion seem to be directed? How can you tell?

8. Do you think this message might influence your behavior? Do you think it might influence the behavior of others for whom the message seems to be intended?

9. What reasons do you have for your conclusions about the ability or inability of the message to influence behavior?

It may be necessary to assist students in using the guidelines. Some advertisements do not explicitly encourage any behavior; they suggest purchasing a product or patronizing a firm, by stressing the virtues of the product or firm. Some advertisements suggest changing from one brand to another or from one type of product to another (e.g., from razor blades to electric razors). Others suggest adopting a new behavior, such as purchasing a type of product that the consumer has not used before. Inferences will be necessary. For example, is an ad for a particular alcoholic beverage intended to persuade consumers to drink brand A rather than brand B, to drink one type of beverage rather than another (e.g., wine rather than beer) or simply to drink alcoholic beverages in general?

Techniques other than verbal persuasion may be difficult to pin down. The constant repetition of a brand name, without any explicit verbal persuasion to do anything, may not sound very persuasive. However, brand identification is an important factor in decisions to purchase, and advertisers use this means of influencing behavior. The frequency with which an ad recurs is sometimes as important as the message it contains. Nonverbal "information" may also be intended to persuade. Pictures and music may be intended to enhance or reinforce a verbal message. They may also be used without any explicit verbal persuasion, with the intention of providing pleasant associations with a brand name, a firm or a type of product.

The questions above, or ones that you develop, should not be represented as an exhaustive analysis of the means by which advertisements influence behavior. The questions should serve to aid students in taking a careful look at the advertising they encounter. The questions should also underscore the pervasive presence of advertising as a method of influencing human behavior.

Students in each group should take notes on the group's discussion. When the group has completed its analysis, members should summarize the group's findings in preparation for the next discussion. You may wish to require a written report from each group or from each student on the groups' analyses.

B. Discussion of Group Results: The second day of this three-lesson sequence should be given over to a discussion of the groups' efforts. A group's report may be questioned by members of other groups, especially in terms of the means by which the advertisement is intended to influence behavior. Students should have little difficulty in describing their own reactions to different advertisements. Each group should have an opportunity to present its conclusions.

C. Discussion of Surveys of Advertisements from Different Outlets (Optional): On the same day that the class discusses the results of the group work, those students who surveyed advertisements from different outlets (Part B of the assignment) should have an opportunity to present their findings. This discussion will add the additional dimension of context: where an advertisement appears is often as important as what is in the advertisement.

If you wish to give a written assignment in preparation for the next discussion, you might ask students to state their views (including value positions) on the functions of advertising. What is advertising used for? What should it be used for? What should it not be used for?

D. Discussion of the Functions of Advertising: Several topics might be included in this discussion. Students might speculate on why so much money is spent on advertising (over $25 billion estimated in 1973)* and on how the society would differ if there were no advertising. A simple definition of advertising is "making known;" another is "persuading." Students may want to discuss reasons why it is (or is not) necessary or desirable to make some things known or to persuade people to do some things through advertising. Students may also want to consider the controls over advertising which exist and the ways in which these controls affect what students see in advertisements. During the discussion students should identify positive and negative aspects of advertising from their own viewpoints. That is, they should begin formulating value statements of the form, "Advertisers (or advertising media) should (or should not)..."

When the positive and negative aspects are identified, continue the discussion by encouraging the formation of value statements about the functions of advertising. Using the same procedures that you have used in previous discussions of value statements, assist students in reaching statements which are grounded, which are consistent with other values held by the student and which seem to reflect knowledge gained in this sequence of lessons.

ASSIGNMENT:

Allow a few minutes at the close of the period to answer questions about the assignment. Students are to make a detailed record of their own actions for one continuous hour of time, and to identify every instance of governmental influence on their actions during that period. This can be recorded in a number of ways; the simplest is to use a two-column sheet, listing actions in one column and governmental influences in the other. Encourage students to select different times during the day so that a representative result is obtained. Students may want a definition of governmental influence. If so, tell them to be as general as possible, including all government agencies at local, state and national levels. The knowledgeable student will note that the FCC is influencing the television he watches; his action is watching television, and the influence is the determination of a ratio of local and network shows, the prohibition of shows with obscenity, restriction of the content of commercials and so on. This is one example; there are many more.

LESSON 25: GOVERNMENTAL INFLUENCES ON BEHAVIOR

SYNOPSIS:

This lesson is a discussion of the results of the assignment in which students recorded instances of governmental influence on their behavior during one continuous hour of time. The discussion should conclude with a consideration of the interrelatedness of influences from several categories, including government.

OBJECTIVES:

The student will:

- observe and record specific examples of governmental influence on his behavior.
- categorize influences on his behavior and identify interrelationships among these categories of influence.

STUDENT TEXT:

Assignment: What Influences Your Behavior? (homework assignment)

*Source: Bureau of the Census, Statistical Abstract of the U.S., 96th ed. (1975), p. 791

SUGGESTED TEACHING PROCEDURES:

A. Discussion of the Assignment: This discussion is intended to allow students to see that government influences their actions in many ways. It should be a loose discussion, allowing students to explore the sometimes subtle influences of government. Government is pervasive, and that point should become obvious during the discussion. When it does, ask students to think of actions that seem inconsistent with their attitudes or values; that is, did the influence of government lead them to behave in ways they would not have chosen without that influence?

B. Other Influences: Expand the discussion to include other categories of influence. Ask students if they can think of actions they took which did not seem to be influenced by government. They should also try to think of sources other than government which may have influenced those actions. From this discussion, work toward the development of a set of categories of influences. One possible set would relate sources of influence to family, religion, school, the economy and government. Another might approximate the list of "SOURCES OF INFLUENCE" given in the reading "Who Influences Your Behavior?" Your class may think of other categories. Keep the categories so comprehensive that the number is not excessive, but so specific that a particular action can be classified as being influenced by one category or another. Then ask students to indicate how influential they think each category of influences is in their own lives.

One point that should emerge from this discussion is that influences originate in many places and are frequently interrelated. A category of influence which is present from early life (such as the family) or which includes direct contact with people (such as school) may have a greater influence on behavior than other categories, but this is not always true. More importantly, human behavior is influenced by many factors, and it is also influenced by the results of interactions among these factors.

ASSIGNMENT:

[Read "Assignment: What Influences Your Behavior?"]

Ask students to complete the assignment "What Influences Your Behavior?" in the Student Text. The present assignment duplicates, in a shorter activity, the assignments in the first four lessons of the unit. In the next assignment students will compare the results of this activity with the results of the activity at the beginning of the unit. From the comparison, you and they will be able to determine what, if anything, the students have learned about influences on their own behavior in certain areas.

LESSONS 26 through 29: REVIEW AND APPLICATION

PREFATORY NOTE TO THE INSTRUCTOR:

This sequence of lessons concludes the unit. In the first two lessons of the sequence students return to the questions with which they began the unit, and evaluate changes in their knowledge, values and actions in regard to influences on their behavior. In the last two lessons, students apply their knowledge and values regarding influences on behavior. The application takes the form of designing messages to alter the knowledge, values or actions of others with regard to drug use, for the purpose of preventing disease.

LESSON 26: REVIEW

SYNOPSIS:

Students discuss differences between their present perceptions of influences on their behavior, and their perceptions at the beginning of the unit.

OBJECTIVES:

The student will identify changes in his knowledge, values and actions regarding the influences of other people on his own behavior.

SUPPLIES:

Students' papers from lessons 1-4 (for use in assignment)

STUDENT TEXT:

Assignment: What Influences Your Behavior? (for use in class)

ADVANCE PREPARATION:

At the end of this lesson you will need to return the papers that students worked on during the first four lessons of this unit. If the students identified their papers with code numbers rather than their names, you should organize the papers so that the same-numbered papers are together, and perhaps also arrange the packets of papers in numerical order. These preparations will make it easier to return the papers to the students at the end of the lesson.

SUGGESTED TEACHING PROCEDURES:

Note: In the activities suggested in parts A and B below, students should not look at their earlier responses.

A. Questionnaire Revisited: Ask each student to number a sheet of paper from 1 through 6. Instruct students to write down "true" or "false" for each of the six statements you are about to read; be sure it is clear that each student is to indicate whether the statement is true for him personally.

Read the six items from the Questionnaire on p. 4. (This is the questionnaire coded "I" at the upper right-hand corner; the items begin with "I...," not with "Most people...")

Collect the papers. They can be submitted without any identifying marks or, if you think individual students will want to compare their answers with the answers they gave at the beginning of the unit, the papers can be identified by the students' names or by the code numbers they used during the first four lessons of the unit. After collecting the papers, tell the class that you will tabulate the results of the questionnaire and that in the next lesson the class will compare the results of the questionnaire this time around with the results at the beginning of the unit.

B. Functions of Influence Revisited: Part C of the Suggested Teaching Procedures for Lesson 4 (P. 10) is a discussion of the functions of influences on students' behavior. In the assignment preceding this lesson students have thought again about the influences on their behavior in particular areas, and about the sources, the media and the functions of those influences. At this point you might summarize the discussion from Lesson 4 and, after the summary, ask students if there have been any changes in their thoughts about the functions of influences on their behavior.

Among the questions you might use in this discussion are the following.

1. Are there any sources of influence which consistently send you messages with the same function or functions? What are the sources and the functions?

2. Are there any media of influence which consistently bring you messages with the same function or functions? What are the media and the functions?

3. How are your answers to these questions different from the answers you gave at the beginning of this unit?

4. What new knowledge do you have about the functions served by messages that influence your behavior?

5. Have there been any changes in your values in relation to the influences of other people on your behavior?

6. Are there likely to be any changes in your actions in relation to the influences of other people on your behavior, as a consequence of your experiences in this unit?

C. Preparation for Assignment:

Note: Except for the returning of the papers from the beginning of the unit, the activity described here can be made a homework assignment if time is limited. On the other hand, if the discussion has been short, the activity described in the assignment can be begun in class.

Return the papers that students submitted during the first four lessons of this unit. Ask each student to compare the lists of sources, media and functions of influence that he wrote for the assignment preceding this lesson, and the similar lists that he wrote for the assignment at the beginning of the unit. Each student should identify and write down (1) any items included in a list at the beginning of the unit but omitted from the corresponding list at the end of the unit, or included at the beginning but omitted at the end; and (2) any items included in both lists, but ranked differently at the end of the unit than they were ranked at the beginning of the unit.

ASSIGNMENT:

Ask each student to review (1) the differences he has identified between his responses at the beginning and at the end of the unit, to the questions about sources, media and functions of influences on his behavior in a particular area, and (2) the results of the discussion in this lesson about the functions of messages coming from particular sources and through particular media.

The student should then answer the following questions:

1. What do you know now that you did not know at the beginning of the unit about the sources, media and functions of influence on your behavior in the area you have chosen to investigate?

2. What do you know now that you did not know at the beginning of the unit about the sources, media and functions of influence on other areas of your behavior?

LESSON 27: REVIEW (Concluded)

SYNOPSIS:

Students conclude the discussion of changes in their perception of the influences of other people on their behavior.

OBJECTIVE:

The student will identify changes in his ranking of the most important sources, media and functions of influence on his behavior in a particular area and on his behavior in general.

STUDENT TEXT:

Preventive Health Care: Influencing the Behavior of Others (homework assignment)

ADVANCE PREPARATIONS:

A. Tally the results of the questionnaire administered to the class in the preceding lesson.

B. Convert to percentages the tallies from all three questionnaires (the one completed in the preceding lesson and the two completed in the first lesson of the unit). For each questionnaire, you will need six pairs of percentages, one pair for each item; the percentages for each item should add to 100%. The table below shows a hypothetical table of percentages for one questionnaire.

ITEM	% TRUE	% FALSE
1	30	70
2	27	73
3	42	58
4	29	71
5	23	77
6	31	69

C. Prepare a table showing the percentages from all three questionnaires, using the form shown below. The filled-in table can be reproduced for distribution to the class, or it can be copied on the chalkboard for use in the next lesson.

	END OF UNIT "I"		BEGINNING OF UNIT "I"		"MOST PEOPLE"	
ITEM	% TRUE	% FALSE	% TRUE	% FALSE	% TRUE	% FALSE
1						
2						
3						
4						
5						
6						

SUGGESTED TEACHING PROCEDURES:

This lesson consists of two discussions: one of the differences between the "end of unit" and the "beginning of unit" questionnaire results, and one of the students' responses to the written assignment from the preceding lesson. Either discussion can come first. The discussion of the questionnaires is presented first here because it is anticipated that it will be shorter than the discussion of the written assignment.

A. Discussion of Questionnaire Results: The table of percentages which you have prepared may show some differences between "end of unit" and "beginning of unit" responses to the questionnaire. Note that any differences that appear in the table of percentages are only suggestive; they do not prove with any sort of reliability that changes have taken place in students' thoughts about influences on their behavior. However, the changes suggested by differences in percentages can be discussed.

B. Discussion of Homework Assignment: In the assignment preceding this lesson students were asked to compare their knowledge at the beginning and at the end of this unit about the sources, media and functions of influence on their behavior in the particular areas they had chosen to investigate. Among the questions you might find useful for this discussion are the following.

1. What sources of influence now seem more important than they did before? What sources now seem less important than they did before?

2. What media of influence now seem more important than they did before? What media now seem less important than they did before?

3. What functions of influence now seem more important than they did before? What functions seem less important than they did before?

4. Compare the responses of all students who investigated the same area of behavior (e.g., "environment and ecosystem" or politics and government" or "drug use"). Within each group, are there similarities in the things students learned? What do these similarities suggest about influences on behavior in that area?

5. Compare the responses of one group with the responses of another (e.g., compare those who studied "politics and government" and those who studied "drug use"). Between one group and another, are there differences in the things students learned? What do these differences suggest about influences on behavior in those areas?

ASSIGNMENT:

[Read "Preventive Health Care: Influencing the Behavior of Others."]

Assign the reading "Preventive Health Care: Influencing the Behavior of Others," in the Student Text. The activities assigned at the end of the reading are in preparation for the remaining lessons of the unit. In those lessons students will apply what they have learned about influences on behavior, in the process of designing a way to influence other people's behavior so as to prevent disease.

LESSONS 28 and 29: DESIGNING PREVENTIVE-HEALTH-CARE MESSAGES

SYNOPSIS:

In these lessons groups of students will design and execute messages intended to influence other people's behavior in the interest of reducing their risk of getting diseases.

Note: The activities described in these lessons may take more than two class periods to complete.

OBJECTIVES:

The student will:

- identify a target population, purpose, type of message and medium for a preventive-health-care message.
- participate in the design and execution of such a message.

SUPPLIES:

As required for the making of messages; may include poster materials, tape recorder, videotape recorder, musical instruments, props for mini-dramas, etc.

STUDENT TEXT:

Preventive Health Care: Influencing the Behavior of Others (for reference in class)

SUGGESTED TEACHING PROCEDURES:

A. Establishing Groups: You may wish to divide the class into groups for the remainder of this unit; each group can produce a different message. Each group might comprise the students who chose a particular drug in the preceding homework assignment. If the resulting groups are too large, they can be subdivided according to the target populations they chose. In order to determine who belongs in which group, it will be necessary to conduct a class discussion to find out which students chose which drug and which students chose which target population.

If some, but not all, of your students chose "drug use" as an area of their own behavior for study in the first four lessons of the unit, these students should be distributed as evenly as possible among the groups. They may have given more thought than other students to the kinds of messages that influence drug use.

B. Group Tasks: Each group should perform the following tasks. Students should refer to the list of tasks in the preceding homework assignment, and should also refer to their own written responses to those tasks.

1. Which Drug? The members of the group should agree on the drug they are working on.

2. Which Target Population? The members of the group should agree on the target population for their message. Note that the primary reason for choosing a target population is to make it easier for students to design a message. It is much easier to figure out how to say something to a particular audience than to figure out how to say something to "people" in general.

3. Which Purpose? The members of the group should decide what the purpose of their message will be. Discussion of this task will probably involve students in some value conflicts, as well as some dispute over what is possible and what is not. (For example, it is much easier, and ethically much less problematic, to give people information than it is to try to influence people's values or actions.) You may wish to require written reports on this phase of the group work, and to steer students away from purposes that you think will be too difficult or will involve them (and you) in unnecessarily troublesome value conflicts.

4. Which Type of Message? The group should decide on a type of message. The possibilities are endless; which possibilities are chosen should depend on the abilities and interests of the students in the group, as well as your judgment about how much time is available to design and make the message. An ambitious group might construct a public-service television commercial including any or all of the "types of message" described in the preceding homework reading.

5. Which Medium? Finally, students in each group should decide which medium (or media) would be appropriate for the type of message they have in mind.

When these tasks have been completed, you may wish to require a written report from each group.

C. Designing and Producing Messages: Each group should design its message in detail. If the message will be in the form of a performance of some kind--spoken words, music or a play--then the "scripts" should be prepared and music selected or composed at this time. If students are preparing messages such as posters or written words, then a "first draft" should be prepared at this time.

When you have approved the groups' designs, each group should execute its plan. Execution may involve performances before the class, or it may involve only the preparation of a "final draft" or completed poster.

D. Evaluation: The groups' messages should be evaluated by you for evidence that students have learned from the present unit about the ways in which people's behavior is influenced. If possible, the messages should also be evaluated by the Biomedical Science instructor for accuracy.

In addition, you might wish to invite critical review of the students' messages from either (1) people in the community who are involved in the making of messages, such as artists, writers, television people and newspaper people, or (2) people in the community who are involved in preventing drug abuse, possibly including doctors, lawyers police officers, public health officials and workers in detoxification programs. If possible, such people should be invited into the classroom so that students can question them on technical aspects of their work.

E. Revision and Use: After the groups' messages have been evaluated, they should be revised to reflect what the students have learned in the evaluation process. After they have been revised, it may be possible to get some or all of these messages put into actual use. Messages directed at high-school students may be used on the campus. Messages directed at other target populations might be used in the public media.

SUPPLEMENTARY LESSON: THE DOCTOR'S DILEMMA

SYNOPSIS:

This lesson is a class discussion that should be conducted shortly after Science Lesson 5, which introduces the doctor's dilemma. In this discussion students consider the reasons for the dilemma and the ways of solving it.

OBJECTIVES:

The student will:

- identify value principles in conflict in a medical-ethics problem.
- identify the kinds of information needed to solve a medical-ethics problem.
- identify the solution, based on his own values, to a medical-ethics problem.

SUPPLIES:

Biomedical Science Student Text, Unit IV, sections 5-1, 5-3.

ADVANCE PREPARATIONS:

Before teaching this lesson you should read sections 5-1 and 5-3 of the Science Student Text for Unit IV. Section 5-1 introduces the doctor's dilemma in a fictional case history and Section 5-3 provides further information about the disease involved in the case history. (The intervening subsection provides information about reflexes, since the patient's reflexes are one means of diagnosing the disease involved in the case history. However, the workings of reflexes are not relevant to the value conflict that is the topic of discussion in this lesson.)

Before teaching this lesson you should also consult with the Science instructor to learn what happened in the discussion of the case history which took place in Science Lesson 5. Students may have indicated positions on the value-conflict problem which you can use as points of departure for the discussion in this lesson.

SUGGESTED TEACHING PROCEDURES:

Part A below suggests reviewing the facts about the case history and about the disease. Part G suggests a way of concluding the discussion of the disease, and Part H suggests a summary discussion. The parts between Part A and Part G suggest a variety of ways of leading students through the analysis of the values involved in the doctor's decision whether to reveal the diagnosis; any or all of these suggestions in parts B through F may prove useful in pursuit of the objectives of the lesson.

A. What Are the Facts? Ask students to describe the facts known to them about the case history in particular and about the disease of multiple sclerosis (MS) in general. The following facts are relevant to the doctor's dilemma.

1. A Fact about the Case History: An important fact revealed in the case history is that the doctor is not certain the patient has MS. She suspects MS, but she is aware that the patient's symptoms could have been caused by another disease or combination of diseases. This fact has an important bearing on the doctor's decision whether to tell the patient that she might have MS.

2. Facts about MS: The following facts about MS are included in the Science Student Text selections.

a. The cause of MS is not known.

b. MS consists of an alteration of the neurons (nerve cells) in the brain and spinal cord. The part of the neurons that conducts nerve impulses is destroyed, and the neurons fail to transmit impulses.

c. MS produces a wide variety of physical and perceptual impairments.

d. There is no known cure for MS and no satisfactory treatment.

e. Spontaneous remission (symptoms going away) often happens in the early stages of the disease, as other neurons take over the functions of those which have been destroyed by the disease.

f. After spontaneous remission, the same symptoms are likely to recur, and other symptoms will appear.

g. Recurrence of symptoms can be triggered by stress.

h. MS is a progressive, debilitating disease; a person who has the disease is almost certain to end his or her life as a "wheelchair case" if he or she doesn't die of other causes first.

B. What Is the Dilemma? Ask students what dilemma the doctor faces. (She has to decide whether to tell the patient that she suspects the symptoms are caused by MS. Presumably, if she decided to reveal the tentative diagnosis, she would also have to decide whether and how much to tell the patient about the disease.)

C. What If You Were Involved? Students can be encouraged to begin thinking about the ethical problems involved in this case by imagining themselves in the position of either the doctor or the patient. What would students do if they were in the doctor's position? What would they want the doctor to do if they were in the patient's position? (Record, or have the students record, the responses.)

D. What Are the Reasons for Acting One Way or the Other? Ask students to provide reasons for telling the patient and reasons for not telling the patient about the tentative diagnosis. Encourage students to translate the reasons they give into value statements, and to reduce their value statements to the value principles that support them. Some reasons that might be offered are listed below and translated into value statements. This list is suggestive, not exhaustive. (Record students' responses.)

1. Reasons for Revealing the Tentative Diagnosis:

a. The patient should know what is happening with her body. (Health workers should reveal to patients what is happening in their bodies.)

b. The patient may need to plan ahead for her family's needs in case she eventually becomes disabled. (Health workers should help patients prepare for the economic, social and emotional consequences of their physical ailments.)

c. The patient may want to consult a specialist. (Health workers should help patients get access to the best health care possible.)

2. Reasons for Not Revealing the Tentative Diagnosis:

a. The uncertainty of not knowing whether she has an incurable, progressive, debilitating disease may be stressful for the patient.

b. Even if she does have MS, there is nothing the patient can do about it now.

c. The tentative diagnosis may be wrong; the patient may not have MS at all.

(The basic value statement underlying these arguments is that health workers should not needlessly increase the stress under which patients already find themselves; in some cases of MS additional stress might trigger a recurrence of symptoms.)

E. Are Any Other Alternatives Open to the Doctor? Ask students if there is anything the doctor might do besides either telling the patient she might have MS or (as she does in the story) simply sending the patient away with the advice that she should come back if she suffers more symptoms. Among the possibilities that might be suggested are such things as (1) advising the patient to avoid stressful situations, without revealing the tentative diagnosis (thus perhaps delaying the recurrence of symptoms), (2) advising the patient to return for frequent examinations (thus ensuring that the doctor will be able to monitor the progress of the disease) and (3) referring the patient to a specialist for further evaluation. Ask students to provide reasons for and against any alternatives they suggest, and to reduce their arguments to value statements and value principles. (Record value statements.)

F. What Circumstances Might Affect the Doctor's Decision? The case history gives little information about the patient's circumstances. Ask students what sort of conditions in the patient's life the doctor might consider in deciding whether to reveal the tentative diagnosis. Some kinds of circumstances that might be relevant are listed below.

1. The patient has a large family that depends on her. The patient lives alone and has no close relatives.

2. The patient is wealthy. The patient is poor.

3. The patient is otherwise in good physical health. The patient is generally in poor health. (Note that the patient in the case history is in generally good health; students should consider the opposite circumstance.)

4. The patient is emotionally secure and well adjusted. The patient is frequently depressed, anxious or otherwise emotionally disturbed.

5. The patient's livelihood depends on her physical coordination and perceptual acuity. The patient's livelihood will not be affected by the progress of the disease.

6. The patient is young. The patient is old.

For each such circumstance that is brought up for discussion, students should indicate which way the circumstance would be likely to tilt the doctor's decision. Note that value statements and value principles may underlie arguments for changing the decision on the basis of such circumstances; these should be identified and recorded.

To expand on this questioning strategy, you might make up (or have students make up) combinations of circumstances for the patient in the story, and ask students what the doctor's decision should be in each set of circumstances, and why.

G. At What Point Should the Diagnosis Be Revealed? Discussion of this question will serve to bring together all of the facts and values that have been discussed so far, and enable each student to decide at what point the reasons for revealing the diagnosis outweigh the reasons against. Review the nature of the disease, especially the facts that (if it is MS) it is sure to recur, the symptoms are sure to get worse and it is very unlikely to be cured. Then briefly outline the progress of the disease (assuming it is MS) either orally or on the chalkboard. Each student should be able to identify the point at which he or she believes the doctor should reveal the diagnosis to the patient, and to provide (orally or in writing) an argument, including facts and value statements, supporting his or her decision. The following points in the progress of the disease might be included in your outline.

1. As in the case history, symptoms have appeared and recurred, but symptoms are now in remission; the diagnosis of MS is tentative.

2. Symptoms have recurred and new symptoms have appeared, but symptoms are in remission; the diagnosis is certain.

3. Symptoms have recurred and the patient is never free from some symptoms, but the patient is able to carry on a more or less normal life.

4. Symptoms have progressed to the point at which the patient's activities are substantially curtailed (e.g., the patient cannot work or cannot care for family members as has been customary).

5. The patient is confined to a wheelchair.

6. The patient is bedridden.

After this activity is completed, you might wish to carry out the following exercise as a means of letting the students see where the class as a whole stands on the question of revealing the diagnosis. First, draw a time line on the chalkboard and, at intervals on the time line, indicate the stages of progress of the disease as described above. Then, pointing to one stage at a time, ask for a show of hands to find out how many students think the patient should be told at that stage. (Students will be aware that different stages may be appropriate for different patients, depending on the patients' circumstances; ask them to consider that the patient is an "average" person, with no unusual circumstances.) Tally the show of hands at each stage. The result will show how the class distributes itself along the time line. If there are bunches of tallies in two places (e.g., several students favor telling the patient at the beginning and several favor waiting until near the end), then further discussion on the differences in values that lead to these different decisions may be appropriate at this time.

H. Summary and Generalization: Following the activity suggested in Part G above, the class should be able to summarize the value principles that bear on the doctor's decision whether to reveal the diagnosis. The class should also be able to generalize from the case of MS to the case of incurable, progressive, debilitating diseases in general. Note, however, that different values would become involved in some diseases of this kind, such as hereditary diseases (in which concern for the patient's children will become an important factor) and diseases that impair mental functions in addition to physical and sensory functions.